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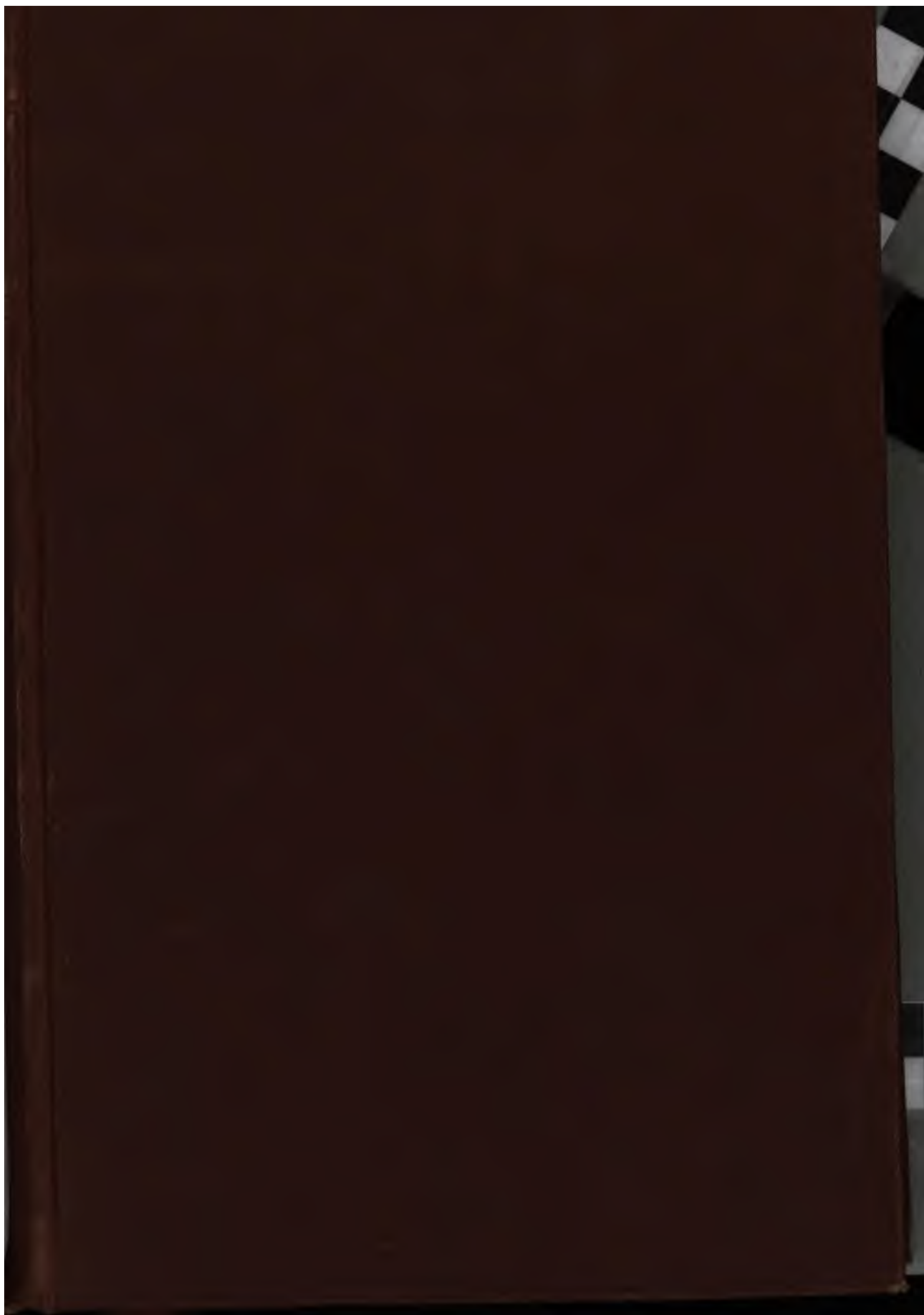
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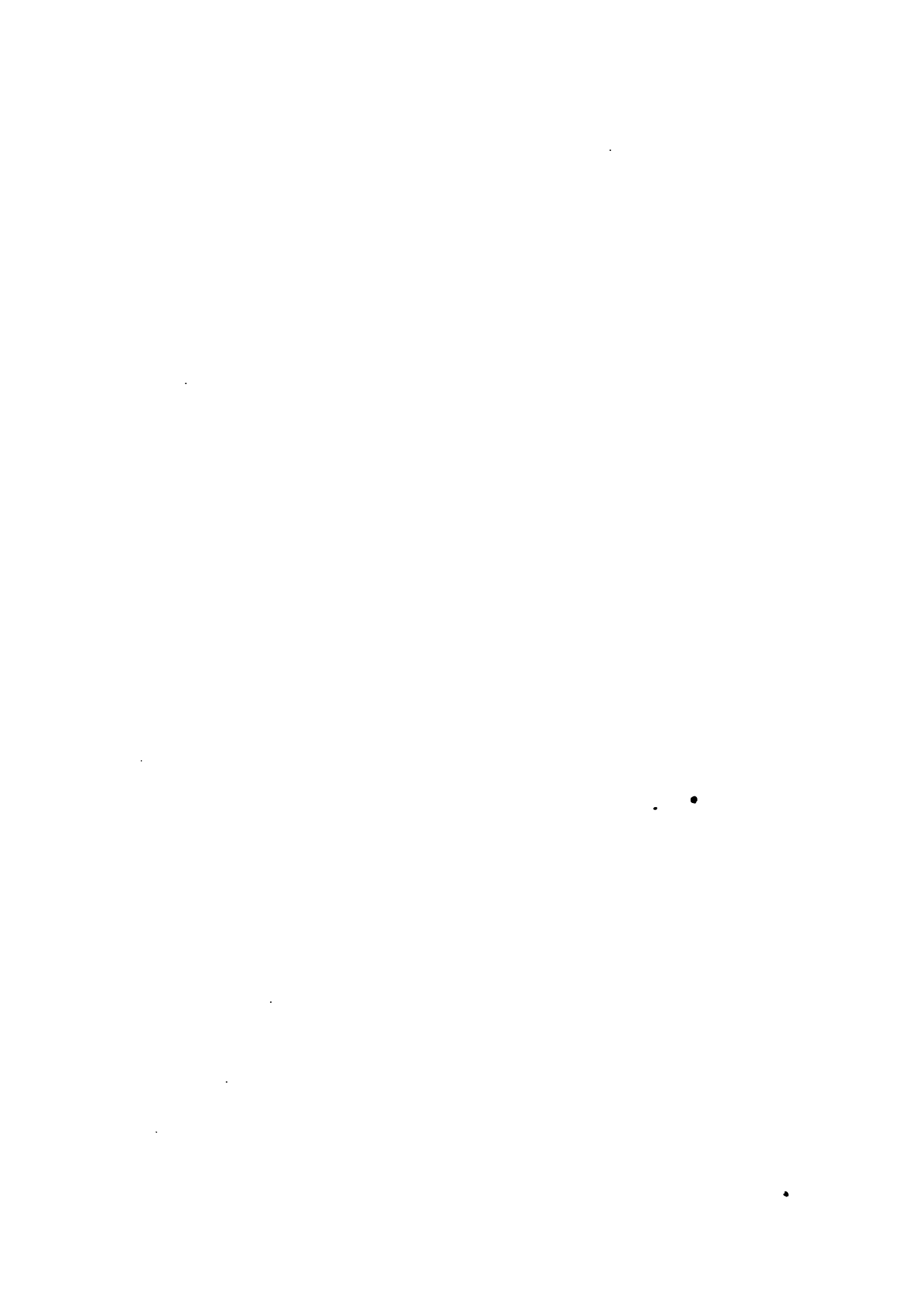


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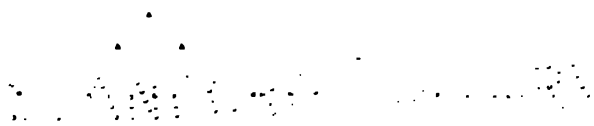
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УВАЖЕЊИ ОРОЖНАРИ

TABLE OF CONTENTS

VOLUME XIII.

ANTIQUITY OF MAN.....	<i>W. J. McGee</i>	69
ALASKAN NATIVES OF FT. WRANGEL...	<i>Egbert Guernsey</i>	79
A GIANT STORY.....	<i>Rev. S. T. Rand</i>	41
ALTAR MOUNDS AND ASH PITS.....	<i>Stephen D. Peck</i>	85
ASMID SIKHAR, OR SUMMIT OF BLISS...	<i>J. C. Thompson</i>	31
ANTIQUITY OF MAN IN EUROPE.....	<i>Editorial</i>	209
AYRANS AND THE INDIANS.....	<i>Editorial</i>	119
ARCHÆOLOGICAL NOTES.....		
The Duk-Duk Ceremony.....		57
Labrets.....		57
Flutes Among the Egyptians.....		57
Carnac.....		57
The Cahokia Tablet.....		58
Antiquity of Man.....		59
Evolution of Man.....		59
Brain Structure.....		60
Pre-Glacial Man.....		60
Archæological Find in Arizona.....		178
Ancient Graves in Missouri.....		179
Painted Bones.....		127
Cave with Copper Relics in Ohio.....		180
Copper Breastplate and Spool Ornaments in Kentucky.....		183
Human Foot-prints in Kentucky.....		183
Fort Rings in Kentucky.....		183
Jade on the Frazer River.....		127

TABLE OF CONTENTS.

Mummies Discovered in Egypt.....	181
Monkeys on the Northwest Coast.....	181
The American Association.....	240
An International Congress.....	240
Norumbega.....	240
Mummies.....	240
The Hurons.....	241
Gen. J. S. Clark.....	241
Tree and Serpent.....	241
Canadian Institute.....	242
The Lake Dwellings of Europe.....	242
Paleolithic Implement at Newcomerstown, Ohio.....	243
The Patrick Collection.....	245
The Foot-prints in Nicaragua.....	300
The Man of Spy.....	300
The Geology of Egypt.....	300
Cup Stones and Ring Marks.....	301
The Skull of the Serpent Worshiper.....	302
The Carthage Find.....	303
The LaHarpe Inscribed Stone.....	303
A Deposit of 7,300 Flint Disks Discovered in Ohio.....	304
BURIAL MOUNDS OF VANCOUVER ISLAND.....	
..... <i>James Deans</i>	171
BURIAL MOUNDS IN WISCONSIN..... <i>J. G. Pickett</i>	237
BOOK REVIEWS.....	
History of the Girtys, by C. W. Butterfield.....	63
The Golden Bough, by J. G. Frazer.....	65
Were the Osages Mound-builders? by Dr. J. E. Snyder.....	65
Transactions of the Victoria Institute.....	66
Paleolithic Man in America, by Thomas Wilson.....	128
A Study of Prehistoric Anthropology, by Thomas Wilson.....	128
The American Race, by D. G. Brinton.....	184
A Story of a Mound, by Prof. Cyrus Thomas.....	246
The Karankawa Indians, by A. S. Gatschet.....	248
Life of Christopher Columbus, by Justin Winsor,.....	361
Forty Years Among the Zulus, by Joseph Tyler.....	362
CANADIAN RELICS..... <i>G. E. Laidlaw</i>	113
COLUMBIAN EXPOSITION AND MUSEUM AT CHICAGO, (<i>Editorial</i>)	359

TABLE OF CONTENTS

v

COMPARATIVE AND PREHISTORIC ART, *Barr Fere*.....123

CORRESPONDENCE.....

 A Weird Mourning Song of the Haidas, by James Deans..... 52

 The Dakotas and Their Traditions, by A. W. Williamson..... 52

 Canadian Relics, by G. E. Laidlaw.....113

 Effigy Mounds of Buffalo Lake, Wisconsin, by T. H. Lewis.....115

 Burial Mounds of Vancouver Island, by James Deans.....171

 A Mormon's Opinion of Serpent Effigies, by E. S. Curry.....172

 The Last of the Apalachees, by H. S. Halbert.....173

 Burial Mounds in Wisconsin, by J. G. Pickett.....237

 Fort Ancient, by W. C. Moorehead238

 Fire Beds and Mounds on the Alleghany, by Thomas Harper.....346

 Old Road and Pyramid in Mississippi, by H. S. Halbert.....348

 Mound-Builders' Pipe, by David Kuntz.....350

 Inscription with Date 1676, near St. Louis, by J. R. Sutter.....350

DELAWARES AND DAKOTAS.....*J. S. Clarke*234

DEFENSIVE WORKS OF THE MOUND-BUILDERS... ..

 *S. D. Peet*.....189

DAKOTAS AND THEIR TRADITIONS*A. W. Williamson*. 52

EARTH-WORKS AND STOCKADES.....*W. M. Beauchamp*... .. 43

EGYPTIAN ARCHÆOLOGICAL DISCOVERIES.....

 Flutes Among the Egyptians..... .. 57

 Papers Read before the Society of Biblical Archæology..... ..127

 Mummies Discovered in Egypt.... ..183

 Oldest Known Egyptian Temple.....183

 Seven Years' Famine in Egypt..... ..242

 Pithom and Succoth..... ..245

 Victoria Institute.....245

 Geological History of Egypt.....300

EFFIGY MOUNDS AT BUFFALO LAKE, WISCONSIN.....

 *T. H. Lewis*..... ..115

EDITORIALS.....

 The Aryans and the Indians119

 Touch of Civilization among the Mound-builders.....174

 The Sphinxes of Michigan..... ..239

 Antiquity of Man in Europe..... ..209

Water Cult and the Deluge Myth.....	362
The Hopewell Mounds.....	359
The Columbian Exposition Museum at Chicago.....	359
FOLK-LORE.....	
Giant Story of the Micmacs, by S. T. Rand.....	41
Story of Skaga Belus, by James Deans.....	81
The Moose Wood Man, by S. T. Rand.....	168
Folk-lore Society, by Frederick Starr.....	61
FIRE BEDS AND MOUNDS.....	<i>Thomas Harper</i>.....340
FIRE CULT AMONG THE MOUND-BUILDERS.....	<i>Stephen D. Peet</i>.....315
FORT ANCIENT.....	<i>W. K. Moorehead</i>.....237
FIRE BEDS AND MOUNDS ON THE ALLEGHANY.....	<i>Thomas Harper</i>.....346
FIRE SYMBOLS.....	<i>Mrs. M. Aynesley</i>.....118
HIGHER CIVILIZATION OF THE SOUTHERN MOUND BUILDERS	<i>J. P. Shreve</i>.....151
HOPEWELL MOUNDS, THE.....	357
HUMAN FOOT-PRINTS IN NICARAUGUA <i>J. S. Crawford</i> ...	300
HISTORICAL ORIGIN OF ART.....	<i>Barr Fereé</i>.....285
INDIAN MESSIAH AND GHOST DANCE... <i>W. K. Moorehead</i>	161
INDIAN DOCUMENTS.....	<i>Albert S. Gatschet</i>.....249
INDIAN INVASION OF THE SAGINAW VALLEY.....	<i>Harlan I. Smith</i>.....339
INSCRIPTION WITH DATE 1676, NEAR ST. LOUIS.....	<i>J. R. Sutter</i>.....346
LAST OF THE APALACHEES.....	<i>H. S. Halbert</i>.....171
LEWIS AND CLARKE, AND THE ANTIQUITIES OF THE UPPER MISSISSIPPI.....	<i>T. H. Lewis</i>.....288
MOUND-BUILDERS.....	
The Great Cahokia Mound, by <i>Stephen D. Peet</i>	3
Altar Mounds and Ash Pits, " ".....	43
Religion of the Mound-builders, " ".....	307
Mysterious Races, " ".....	255
Defensive Works of the Mound-builders, ".....	189
Burial Mounds in Vancouver, by <i>James Deans</i>	171
Burial Mounds in Wisconsin.....	171

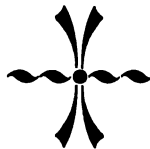
TABLE OF CONTENTS

vii

MOON SYMBOL ON THE NORTHWEST COAST.....	.....
.....	<i>James Deans</i>.....341
MAN OF SPY,.....	<i>Max Lohest</i>.....296
MOUND-BUILDERS' PIPE.....	<i>David Kountz</i>.....346
MOOSE WOOD MAN.....	<i>S. T. Rand</i>.....168
MUSICAL INSTRUMENT WITH HIEROGLYPHICS A.....	56
MYSTERIOUS RACES.....	<i>Stephen D. Peet</i>.....307
NEOLITHIC MAN IN NICARAGUA.....	<i>J. Crawford</i>.....293
OLD ROAD AND PYRAMID IN MISSISSIPPI.....	.....
.....	<i>H. S. Halbert</i>.....293
RELIGION OF THE MOUND-BUILDERS.....	<i>Stephen D. Peet</i>.....307
SERPENT EFFIGIES, A MORMON'S OPINION OF.....	.....
.....	<i>E. S. Curry</i>.....171
SUN AND FIRE SYMBOLS.....	<i>Mrs. Aynesley</i>.....118
SPHINXES OF MICHIGAN.....	<i>Editorial</i>.....239
STORY OF SKAGA BELUS.....	<i>James Deans</i> 81
TOUCH OF CIVILIZATION AMONG THE MOUND-BUILDERS.....	.....
.....	<i>Editorial</i> 174
THE CHICHIMECAS.....	<i>G. Staniland Wake</i>.....229
TOTEM POSTS ON THE NORTHWEST COAST.....	.....
.....	<i>James Deans</i>.....341
TOTEM POSTS OF THE HAIDAS.....	<i>James Deans</i>.....282
WEIRD MOURNING SONG OF THE HAIDAS, A.....	.....
.....	<i>James Deans</i> 52
WATER CULT AND DELUGE MYTH.....	<i>Editorial</i>.....362
YUMA; OR JAPANESE VOTIVE OFFERINGS.....	.....
.....	<i>J. R. Deforest</i>.....331

LIST OF CONTRIBUTORS

Aynesley, Mrs. M.	118
Beauchamp, W. M.....	43
Clarke, J. S.....	234
Crawford, J.....	293
Deans, James.....	52, 81, 282, 341
Deforest, W. E.....	331
Feree, Barr.....	123, 225
Gatschet, A. S.....	249
Guernsey, Egbert.....	79
Halbert, H. S.....	171, 346
Harper, Thomas.....	340
Laidlaw, G. E.....	113
Lewis T. H.....	213, 288
Lohest, Max.....	296
Moorehead, W. K.....	161, 237, 352
McGee, W. J.....	69
Muller, Max.....	300
Peet, Stephen D.....	3, 85, 132, 189, 255, 307
Rand, S. T.....	41, 168
Starr, Frederick.....	61
Shreve, J. P.....	151
Sutter, J. R.....	346
Smith, Harlan I.....	339
Thompson, J. C.....	31
Victoria Institute.....	63, 244, 300
Wake, C. Staniland.....	229





THE CAHOKIA MOUND.

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THE GREAT CAHOKIA MOUND.

BY STEPHEN D. PEET.

One of the most interesting localities for the study of the prehistoric monuments of this country is the one which is found on the banks of Cahokia Creek, some twelve miles from the City of St. Louis. Here the largest pyramid mound in the United States is to be seen, and with it many other mound structures, which are as curious and interesting as the great mound itself. It should be said that this is the northernmost point at which any genuine pyramid mounds of the southern type have been recognized, but it is a locality in which all the peculiarities of that class of earth-works are exhibited. There is certainly a great contrast between these works and those situated in the northern districts; but the fact that this large group has been introduced into the midst of the northern class, and in close proximity to many specimens of that class, makes the contrast all the more striking and instructive.

The conditions of life in the different parts of the Mississippi Valley seemed to have varied according to the climate, soil and scenery, but they are so concentrated into a narrow compass that one may, by the aid of steam and the railroad train, pass in one day from the midst of the wild savage hunters of the north into the very midst of the works of the semi-civilized agricultural people of the south, and may find the whole panorama of the prehistoric races unrolled and the whole condition of society in prehistoric times rapidly brought before the eyes. Cahokia mound is at first disappointing (see Fig. 1), for it is not as imposing as some have represented it to be, and yet the consciousness that a great population once swarmed here and filled the valley with a teeming life made the spot a very interesting one. There was also a double presence which was forced upon

the mind—the presence of those who since the beginning of historic times have visited the region and gazed upon this very monument and written descriptions of it, one after the other, until a volume of literature has accumulated; and the presence of those who in prehistoric times filled the valley with their works, but were unable to make any record of themselves except such as is contained in these silent witnesses. There is, perhaps, no spot in the Mississippi Valley which has been oftener visited by distinguished persons and no monument which has oftener gone into history. Descriptions of it began as early as the time of Marquette and the French missionaries; they appear again in the time of Gen. Rogers Clark and the conquest of the country from the Indians; they come out again in the time of the early explorers and travelers, Brackenridge, Latrobe and others, and continue to the present day,—missionaries, early



Fig. 1—Cahokia Mound.

travelers, military generals, historians and modern archaeologists vying with one another in describing the scene. We shall offer no minute description of our own, but shall quote from different travelers who have visited the spot and who have seen the earthworks before they were so sadly despoiled by the aggressions of modern days. Probably not one fifth of the mounds and earthworks which formerly covered this broad valley, and which also surmounted the bluffs adjoining, can now be seen. The growth of the great City of St. Louis has destroyed the last vestige of the large group which could once be seen there, and all of the pyramids, cones, "falling gardens," terraces and platforms, which once attracted attention, have disappeared. Twenty-seven large mounds once stood on the bluff, making it memorable as the location of a large village, which was similar in many respects to the one where the great mound now stands, but they have been destroyed and can not now be studied.

We shall go back for our descriptions to the author who has given the earliest and fullest account—J. M. Brackenridge. He says: "There is no spot in the western country capable of being

more highly cultivated or of giving support to a numerous population than this valley. If any vestige of ancient population could be found, this would be the place to search for it; accordingly this tract, as also the tract on the western side (Mound City, now St. Louis), exhibits proof of an immense population. The great number of mounds and the astonishing quantity of human bones dug up everywhere or found on the surface of the ground, with a thousand other appearances, announce that this valley was at one time filled with inhabitants and villages. The whole face of the bluff or hill which bounds it on the east appears to have been a continued burying ground. But the most remarkable appearances are the two groups of mounds or pyramids—the one about ten miles above Cahokia (a village nearly extinct), the other nearly the same distance below it—which in all exceed in number one hundred and fifty mounds of various sizes. (See map.) The western side (St. Louis) also contains a considerable number. A more minute description of those above Cahokia, which I visited in 1811, will give a tolerable idea of them all. I crossed the Mississippi at St. Louis. After passing through the wood which borders the river, about half a mile in width, I entered on an extensive plain and found myself in the midst of a group of mounds, at a distance resembling enormous hay-stacks scattered through a meadow. One of the largest, which I ascended, was about two hundred paces in circumference at the bottom. The form was nearly square, though it had evidently undergone some alterations by the washings of the rains. The top was level, with an area sufficient to contain several hundred men. The prospect from the mound was very beautiful. Looking toward the bluffs, which are dimly seen at a distance of six or eight miles, the bottoms at this place being very wide, I had a level plain before me, bounded by islets of wood and a few solitary trees; to the right (the south) the prairie is bounded by the horizon; to the left the course of the Cahokia River may be distinguished by the margin of wood upon its banks. Around me I counted forty-five mounds or pyramids, beside a great number of small artificial elevations. These mounds form something more than a semi-circle a mile in extent, to the open space on the river. Pursuing my walk along the bank of the Cahokia I passed eight others in a distance of three miles before I arrived at the largest assemblage. When I reached the foot of the principal mound, I was struck with a degree of astonishment not unlike that which is experienced in contemplating the Egyptian pyramids. What a stupendous pile of earth! To heap up such a mass must have required years and the labor of thousands. Were it not for the regularity and design manifest, the circumstance of its being alluvial ground, and the other mounds scattered around it, we would scarcely believe it to be the work of human hands." Brackenridge also says: "The shape

is a parallelogram, standing north and south. On the south side there is a broad apron or step, and from this another projection into the plain which was probably intended as an ascent to the mound. The step or terrace has been used for a kitchen garden by some monks of LaTrappe settled near this, and the top of the structure is sown in wheat. Nearly west was another of smaller size, and forty others were scattered about on the plain. Two were seen on the bluff at a distance of three miles. I every where observed a great number of smaller elevations at regular distances from each other, and which appeared to observe some order. I concluded that a populous city had once existed here, similar to those of Mexico described by the first conqueror. The mounds were sites of temples or monuments of great size."

We have given the quotation for the sake of showing the impressions which were formed by the works when they were first visited and when the country was in its native wildness, with no work of modern civilization to mar the scene. It will be learned from the description that there were at the time several large groups of mounds—one situated on the bluffs where St. Louis now stands; another on the bank of the Mississippi River, not far from the present site of East St. Louis; a third on the bottom lands, about ten miles below the old village of Cahokia; the fourth about ten miles above the old village, which is the group in which we are especially interested.* We speak of this because there has been a general impression that the celebrated "Cahokia" mound, or more properly "Monk's" mound, is a solitary pyramid, and that it has no connection with any of the works in the vicinity. Mr. Brackenridge unconsciously corrects this impression, for according to his description the works of the entire region were all of them of the same class, the majority of them having been truncated pyramids. It should be said that there are lookout mounds at various points on the bluffs, which command extensive views across the country into the interior, and which must also have served as beacons or signal stations for the villages which were scattered throughout the bottom lands. Two of these are mentioned by Mr. Brackenridge as in plain sight from Monk's mound. One of these is now called "Sugar Loaf." It forms a prominent mark in the landscape, as its towering height can be seen at a great distance. So favorable was the mound as an observatory that the Coast Survey took advantage of it and made it a station for triangulating. Our conclusion is that the whole system of works on the great American bottoms was connected together, and that here at the mouth of the Missouri, a colony resembling the race of southern

*Mr. McAdams says there is a group at Mitchell Station, half way between St. Louis and Alton, which contains several large platforms, one of them measuring 300 feet on the side, 30 feet high. This mound was excavated for four railroad tracks and many relics taken out—copper spoons, awls, needles and an ornament resembling the shell of a turtle, and most important, the teeth of a buffalo.

mound-builders had long made their home, but were driven off at some time preceding the date of history by the hunter tribes, who came down upon them from the north.*

We here make a record of an observation which amounts to a new discovery. It was noticed by the writer as he ascended the great mound that it was in the midst of a large group of similar mounds; that the mounds surrounding it were arranged in pairs—a conical mound and a pyramid constituting a pair—and that each one of these separate pairs was placed on lines which are parallel to the sides of the great pyramid, and that they were all orientated, the sides always facing the points of the compass. It was noticed also that in some cases the ground was raised between the truncated pyramid and the conical mound, giving the idea that there may have been here a chunky yard or play-ground, the same as there was between the public squares and the rotundas, which have been described by Adair and Bartram as common in the villages of the southern Indians. In one case, about half a mile to the east of the great pyramid, there was a high platform or pyramidal mound, and immediately adjoining it on the north was a large platform, but at a lower level and on the northeast corner of this platform, was a large conical mound, the three parts being in close proximity, the arrangement of the three reminding one of the relative location of some of the so-called sacred enclosures of Ohio, where a large circle intervenes between a small circle and a large square enclosure, the three being joined together by protecting walls. This discovery of the peculiar grouping of the surrounding mounds was made while looking down upon the scene. A very beautiful pair of earth-works stands immediately south of the great pyramid, each one presenting its sides covered with varied foliage, the golden autumnal tints being set-off against the silvery radiance of the little artificial lake which lay in the background. The size of the pyramids adjoining the great pyramid can be learned from the circumstance that nearly all of the large farm-houses in the region are built upon the summits, the pyramids being large enough to accommodate the houses, with their out-houses, barns, lawns and other conveniences of residence. One of these, the one at the west had been graded down about eight feet, but others were left at their natural height. The houses are arranged along the sides of the common highway, which here constitutes the line between two counties, the distance from one end of the group to the other being about three miles from east to west, and two miles from north to south. The arrangement of the group

*See *Antiquities of Monk's Mound*, published by W. R. Brink, Edwardsville, Ill., 1883; Foster's *Prehistoric Races*, p. 107; *Ancient Monuments*, p. 174; *Twelfth Report Peabody Museum*, p. 472. It should be said that the mound which Dr. J. H. Foster describes as having been removed was situated at Cahokia, and in that vicinity still goes by the name of the great Cahokia mound. We judge that this mound had a lower or conical mound on its summit 10 feet high, which, on exploration, yielded human bones, funeral vases and various implements.

is peculiar. There are pyramids and conical mounds close by the side of the great pyramid; beyond these are similar works, making several pairs east and west and several pairs north and south of the great pyramid, all of them arranged with their sides facing the sides of the central pyramid, and all of them overlooked by its towering height. There are also many artificial ponds, whose waters glisten beneath the dark shadows of the many earth-works, making a varied scene.

2. As to the size and shape of the great mound, we shall give the descriptions of others, for the reason that many of them have had better opportunities for observing and measuring them than we have. It may be said, however, that the descriptions which have been written so vary in their details that we are uncertain which account to believe.

Squier and Davis speak of the mound, but seem to have given the wrong dimensions. They say: "It covers not far from eight acres; its summit has an area of about five acres; its solid contents may be roughly estimated at 20,000,000 cubic feet. It is nearly ninety feet high, is built in terraces, and is reached by a graded way which passes up at the south end."

Mr. William McAdams says: "We have surveyed the group, and found that the great pyramid is surrounded by seventy-two others of considerable size within a distance of two miles. The largest axis of the pyramid is 998 feet, the shortest is 721 feet, and it covers sixteen acres, two rods and three perches of ground. He says: "After many days of exploration and study, we believe the evidence to prove this to be a group of the greatest mounds on this continent and perhaps in the world, and possibly this was the Mecca or great central shrine of the mound-builders' empire. Upon the flat summit of the pyramid, one hundred feet above the plain, were their sanctuaries, glittering with barbaric splendor, and where could be seen from afar the smoke and flames of the eternal fire, their emblem of the sun."

Prof. Putnam says: "Situated in the midst of a group of about sixty mounds of more than ordinary size, several in the vicinity being from thirty to sixty feet in height, and of various forms, Cahokia mound, rising by four platforms or terraces to a height of about one hundred feet, and covering an area of about twelve acres, holds a relation to the other tumuli of the Mississippi Valley similar to that of the great pyramid of Egypt to the other monuments of the valley of the Nile." Dr. J. J. R. Patrick, residing in the vicinity, has made a survey of the group and prepared two accurate models of the mound itself—one of them representing the mound as it now exists.

Featherstonaugh visited the mound in 1844, and says that the settlement of the monks was on a smaller mound to the west, but at the time of his visit the building in which they had lived had been leveled with the ground. He also states that a Mr.

Hill was living in a house he had erected on the top of the great mound; that upon digging for the foundation, "he found large human bones, with Indian pottery, stone axes and tomahawks." We judge from Brackenridge's account that there was no roadway to the summit in his time, but that the one which now appears must have been made by Mr. Hill, the owner, and that the well which is now in ruins was dug by him.*

In reference to the present condition of the mound, we have to say that an air of waste and ruin surrounds it; deep gullies are worn into its sides, and it seems to be wrinkled and ridged with the marks of its great age. See Plate I. Though surrounded by many other structures, on which there are signs of modern life, this seems to be deserted. The very house which was found upon its summit has been leveled to the ground, and the home of the present owner, situated a little to the rear of it, seems to hide itself in the shadows of the great monster. It stands like a solemn monarch, lonely in its grandeur, but imposing in its presence. Though the smoke of the great city may be seen in the distance, and many trains go rumbling across the valley and through the great bridge which spans the river, yet this monster mound stands as a mute witness of a people which has passed away. It is a silent statue, a sphinx, which still keeps within its depths the mystery which no one has as yet fathomed. It perpetuates the riddle of the sphinx.

3. As to archæological relics. It is remarkable that the spot continues to yield such an amount of them after so many years of exploration and curiosity hunting. In the field adjoining one may find beautiful fragments of pottery, some of which bear the glaze and red color which formerly characterized the pottery of the Natchez Indians. There are also vast quantities of bones hidden beneath the surface, and one can scarcely strike a spade through the soil without unearthing some token of the prehistoric races. Mr. Ramey, the owner of the mound, speaks about digging in one part of the field and finding heaps of bones eight feet deep, and says that the bones are everywhere present. The workmen who were engaged in digging ditches for underdraining had a few days before come upon large quantities of pottery and skeletons of large size, but had carelessly broken them instead of preserving them. As to the character of the pottery and the patterns contained in them, we notice some remarkable resemblances between the pieces exhumed here and those which are found in the stone graves of Tennessee. One specimen was

*A well was dug by Mr. Hill. This well was eighty feet deep. At sixty feet they found fragments of pottery and corn carbonized and bones. The water from the well was never used, as it always had a peculiar taste, and the supposition was that human bodies were buried in the mound. The cellar dug by Mr. Hill showed the mound to be stratified. An excavation by Mr. Ramey, on the north side, revealed the same. A piece of lead or galena was found at the end of the tunnel, which extended about fifteen feet in towards the center of the mound. McAdams says the area on the top is an acre and a half.

especially interesting. It represented a squirrel holding in its paws a stick, the teeth placed around the stick as if gnawing it, the whole making a handle to the vessel. We noticed also a frog-shaped pipe made from sand-stone, and many other animal-shaped and bird-shaped figures. The object which impressed us most was a sand-stone tablet, which contained figures very much like those found upon the inscribed tablets taken from one of the mounds of the Etowah group in Georgia. It was evident that this tablet was covered with a mysterious symbolism, and suggested the thought that the same people who erected the southern pyramids, and who embodied in them the various symbols of sun-worship, also erected here these great mounds under the influence of the same powerful religious cult. What that cult was, we shall not undertake to describe, but it was undoubt-



Fig. 2.—Big Mound at St. Louis.

edly a superstition which held under its control the entire people and led them to erect these great monument even at the expense of long and protracted labor.

4. In reference to the symbolism which was embodied in this great work, we may say that the terraces are four in number, the first, second and third being about thirty feet in height, the fourth being at present but about four feet, though it has been reduced from its original height. The terraces seem to cut across the whole face of the great pyramid on the south and west sides, but the north and east sides are steep and inaccessible. There is a striking analogy between this pyramid and the one at Copan in Central America. See Fig. 1. There is also the same method of orientating the pyramids here and in Central America that is found in ancient Chaldea and Assyria, though here the sides are

toward the points of the compass rather than the angles. The pyramids are built in stages, though there are here only four platforms; in Chaldea there are seven. Our conviction is that a race of sun-worshippers occupied this region, but it was a race which differed materially from the serpent-worshippers which dwelt immediately north of them and whose effigies we have recently discovered. We are aware that Mr. McAdams believes that the dragon was symbolized in some of the molded pottery and that the famous image of the Piassa, which formerly was to be seen on the face of the rocks near Alton, belonged to the same people who erected these pyramids. He also says: "As he looked down from the conical mound south of the great pyramid upon the pond which lies below, he seemed to be looking into the ever-present eye of the Manitou that had glared at him from the bluffs and caverns, and which is so common on ancient pottery, the oldest symbol in the world." We are free to say that the pond does have a remarkable resemblance in its general contour to the symbol which is composed of eyes and nose, and which is supposed to have been significant of the face of the sun and at the same time contained the phallic symbol.

It will be noticed that the pyramid mounds were built for a people who differed very materially from the wild Indians who roamed over the northern districts, as their tribal organizations and wild condition did not admit of the social grades which are apparent here. Still it is worthy of mention that a Kaskaskia chief told Gen. George Rogers Clarke that it was the palace of his forefathers, that "the little mountain we saw there flung up with a basin on top was a tower that contained a part of the guard belonging to the prince, as from the top of that height they can defend the king's house with their arrows."

When the Indian tribes were visited by Ferdinand De Soto, he found the whole territory filled with walled towns. Sometimes they contained a population of several thousand inhabitants, and they were surrounded by palisades and protected by gateways. The house of the chief or sachem of the tribe was often built upon an artificial mound, and so-called temples or altars of worship were built upon raised foundations of earth. Some writers describe these mounds as the places of burial for their dead chieftans; but others as the residences of the chief or brother of the sun; and by others it is stated that the house of the great sun stood upon one mound and the temple of the priest was on another mound—both of the same height. Here, however, we have not only the residences of the chiefs and priests, which were undoubtedly erected on the summit of the mounds, but we have in the center of them all the great temple. It is probable that this was the assembly place of the tribe, and that there was a building which corresponded to the "long house" of the Indians and the capitol of the white man, and that the different pyramids

were built for the accommodation of the chiefs and ruling men of the clans which may have lived here. The whole structure was significant of the grades of society which probably existed among the people.

II. We now turn to the mounds formerly at St. Louis. These mounds were in some respects fully as interesting as those at Cahokia Creek. The peculiarities of the group were as follows: 1. They were arranged in a line along the second terrace parallel with the river and in full sight of the stream itself. 2. There was in the center of the line a group which was in the form of an amphitheater, the back part of the group forming a graceful curve, but the front part being flanked by a pyramid on one side and the falling gardens on the other. 3. Several of the mounds were terraced, the terraces all being on the east and

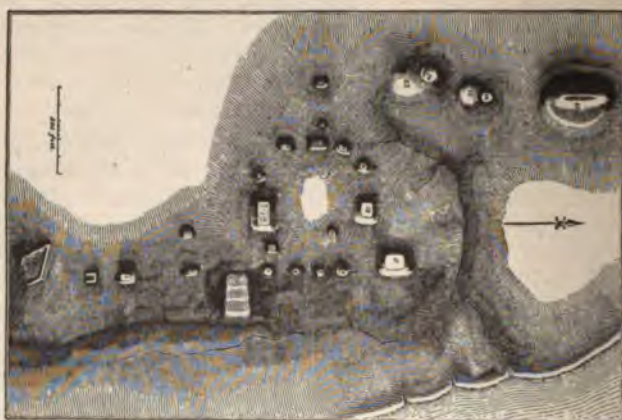


Fig. 3.—Map of Works at St. Louis.

so situated as to give a good view of the river. 4. The big mound, concerning which so much has been said, was located at the extreme north of the line. This seems to have been attended by a series of irregular pyramids, all of them of large size and on high ground, so making the entire series to resemble the great terraced villages of the west, the pyramids being arranged in banks or steps along the entire bluff.

The arrangement of the pyramids deserves attention. This seems to have varied according to the situation. Those in the vicinity of the Monk's mound extend nearly three miles in one direction and two in another, but the great mound occupies the center and overlooks the whole series. Cahokia Creek flows just north of the great mound and divides the group, several mounds being north of the creek. The group on the bank of the river near East St. Louis, according to the descriptions given of it by Brackenridge, was in the shape of a crescent,

which opened upon the river. This group was formerly situated where the business part of St. Louis now stands. It was arranged along the edge of the terrace for the space of about three quarters of a mile. In the center of the line was a group containing several pyramids, arranged about an open area, a pyramid at either side, the falling garden being situated at an angle of the area. The whole group was so arranged that a view of the river could be obtained from the summit of each pyramid. The group was in a sightly place, and commanded a view in all directions. See Fig. 3.

Brackenridge describes this group as follows: "It is situated on the second bank and disposed in a singular manner. They are nine in all, and form three sides of a parallelogram, the open side toward the country being protected by three smaller mounds placed in a circular manner. The space enclosed is about 300 yards in length and 200 in breadth. About 600 yards above this is a single mound, with a broad stage on the river side. It is 30 feet in height, 150 in length; the top is a mere ridge 5 or 6 feet wide. Below the first mound is a curious work called the 'falling garden.' Advantage is taken of the second bank, nearly 50 feet in height at this place, and three regular stages or steps are found. This work is much admired. It suggests the idea of a place of assembly for the purpose of counseling on public occasions." Mr. A. C. Conant says that the "big mound" which once stood at the corner of Mound street and Broadway is the terraced mound represented by Mr. Brackenridge as located 600 yards north of the main group. He says there were formerly many other mounds in the vicinity of St. Louis, rivalling in magnitude and interest those just described. The second terrace of the Mississippi, upon almost every landing point, was furnished with them. The "big mound" was destroyed in 1869. It was found to contain a sepulchral chamber, which was about 72 feet in length, 8 to 12 feet wide, and 8 to 10 feet in height; the walls sloping and plastered, as the marks of the plastering tool could be plainly seen. Twenty-four bodies were placed upon the floor of the vault, a few feet apart, with their feet toward the west, the bodies arranged in a line with the longest axis; a number of bone beads and shells, sea shells, drilled with small holes, near the head, in quantities "sufficient to cover each body from the thighs to the head."

We call attention to the arrangement of the terraces in this group. They seem to be directed toward the east or the river side, and commanded a view of the river and of the mounds upon the opposite side of the river.

Mr. Say says: "Tumuli and other remains are remarkably numerous about St. Louis. Those immediately northward of the town are twenty-seven in number, arranged nearly in a line from north to south. The common form is an oblong square,

and they all stand on the second bank of the river. It seems probable that these piles of earth were raised as cemeteries, or they may have supported altars for religious ceremonies. We can not conceive any useful purpose to which they could have been applicable in war, unless as elevated stations from which to observe the motions of an approaching enemy. Nothing like a ditch or an embankment is to be seen about any part of these works." This remark about the "elevated stations" is a suggestive one. It may be that the people assembled upon these terraces to observe the scene spread out before them, a scene which abounded with peaceable pursuits. The valley was covered with a teeming population, large canoes were passing to and fro upon the river, villages were scattered over the rich bottom land in every direction, the pyramids on which the chiefs had built their houses loomed up in the midst of the ordinary houses in the villages, the lofty towers or lookouts on the bluffs, surmounted by sentinels or watchmen, were covered with beacon fires by night or with smoking signals by day, while in the midst of the scene the great mound stood as a gigantic temple, with its terraces covered with the troops of superstitious people, who assembled there to protect the shrine on the summit. Above this the smoke from the sacred fires arose in a spiral into the face of the sun. It was a scene suggestive of busy life, but there was a strange superstition which pervaded everything, filling the air with its awe-inspiring effect, the sun being the great divinity worshiped by the entire people—its rising being met by adoration from morning to morning, and its course watched by those who regarded it as a divinity.

It will be remembered that the celebrated picture rocks which Marquette describes as having been seen by his party, of which the natives seemed to be in mortal fear, were situated not far from this spot. These pictures have given rise to many strange stories. It is said that they were in the shape of huge animals, with human faces, horns issuing from the head, wings surmounting the body, all parts of the animal kingdom being mingled into one hideous-looking creature. It is said also that there are caves in various localities, hidden away among the rocks. The bluffs surrounding the valley are strangely contorted. The lakes and ponds in the midst of the valley had formerly a wild, strange air about them. Agriculture was followed here, for agricultural tools have been taken from the ground in great numbers, but it was agriculture carried on in the midst of wild scenes. There must have been a dense population, for it is said that the plow everywhere turns up bones in great numbers, and the sides of the bluffs are filled with graves, in which many prehistoric relics have been found. There is no place in the Mississippi Valley where so many evidences of the strange life and strange superstitions which prevailed in prehistoric times are found.

LIST OF MOUNDS FORMERLY ON THE SITE OF ST. LOUIS.

The following table, which was taken from the survey made by Long's expedition,* and which is probably correctly given, will show the dimensions and grouping of the pyramids, conical mounds and falling gardens. The big mound is the one farthest north in the group.

NO.	SHAPE.	DISTANCE.	Diam. Base.	TOP.	Height.	REMARKS.
1	"Spanish Bastion".....	.....	.....	.....	.....
2	Hollow Square.....	N. 259.	50	.....	5	
3	Oblong Square.....	N. 115.	114x50	80	4	
4	Oblong Square.....	N. 251.	84	45	4	
5	Oblong Square.....	W. 155.	81	35	4	
6	Falling Gardens....	1st T. ....	.....	87	19	Top 114x88, 5 ft. high above the bluff.
		2d T. ....	.....	51	30	
		3d T. ....	.....	30	34	
7	Conical.....	N. 95.	83	34	4½	
8	Conical.....	N. 94.	98	31	5	
9	Conical.....	N. 70.	114	56	16	
10	Conical.....	N. 74.	91	34	10	
11	Square on the slope	N. 158.	179	107	5	East side 20 ft. high.
12	Square.....	W. 30.	129	50	10	
13	Parallelogram.....	W. 30.	214x188	134x97	12	Distant from No. 5, 250 feet.
14	Convex.....	W. 55.	95	50	.....
15	Square.....	N. W. 117	70	.....	4	
16	Square.....	N. E. 103.	124	.....	.....	16, 17, 18 and 19 are on a curve.
17	Square.....	N. 78.	82	.....	.....
18	Square.....	N. E. 118.	77	.....	.....
19	Quadrangular.....	E. N. E. 70	187	68	23	484 ft. N. N. W. of 13.
20	Round.....	.....	20	.....	2	
21	Round.....	.....	25	.....	.....	317 ft. W. of No. 16.
22	Quadrangular.....	W. 329.	73	.....	12	23, 24, 25 and 26 in a line, 245 ft. N. of 22
26	Irregular.....	N. 246.	89	.....	12	
27	"Big Mound".....	.....	319x158	136x90	34	N. N. W. of 19 1463 ft.
	Top 11 feet wide. Terrace 79 feet wide.					

*See Smithsonian Report, 1861, p. 387.

LIST OF LARGE MOUNDS NEAR EVANSVILLE, IND.

NO.	SHAPE.	Circumference Base.	Diameter of Top.	HEIGHT.
1	Truncated.....	585	100	15
2	Conical.....	150	.....	8
3	Truncated.....North.....	402	60	20
4	Altar.....120 feet.....	3x2	.....	14 inches.
5	Conical.....East.....	150	.....	4
6	Terraced.....East.....	1200	150x55	50
		.....	185	45
		.....	.....	15
7	Conical.....East.....	90	.....	10
		Bastion Wall.....	1 Mile.	.....	2½
8	Conical.....Half mile N. E.....	492	.....	50

The group of mounds is surrounded by the bastion wall. There are mound-like widenings on the outer edge, 120 feet apart. Graves walled with slate are numerous. One cist was 8 feet long, 4 feet long and 4 deep.—Dr. Floyd Stinson, Evansville, Ind., Smithsonian Report, 1881.

III. We take up the comparison between the pyramids. It will be noticed that there is a general resemblance, both in the shape of the individual pyramids and in the arrangement of the pyramids in the groups. Here at St. Louis one group has a great mound in the center with the other mounds around it; the other group has an open area in the center and the pyramids placed at the sides of the area, as if to guard it and make it a place of assembly.*

We first turn to the comparison of the northern mounds with the pyramidal mounds in the Southern States, and are to notice the resemblances. The number and location of these pyramids are at present somewhat uncertain, but they seem to have been distributed throughout the entire region covered by the Gulf States. They are numerous in Louisiana, Mississippi, Georgia and Alabama. A modified form of pyramid, not so large nor so well made, is found also among the stone graves of Middle Tennessee, as well as among the lodge circles of Arkansas. Truncated pyramids, or rather platform mounds, are common also throughout the southern part of Ohio, though they are not pyramids in any proper sense of the word. Still, if we take the shape as a standard, and consider the platform mounds having graded ways as one type of pyramid, we should find that the distribution of the pyramidal mounds was very extensive. There was formerly an elevated square or platform mound at Martin's Ferry, near Wheeling, and in connection with it a conical mound, the two reminding us of the rotunda and public square of the Cherokees. This is the easternmost point where such works have been seen. The westernmost limit of mounds of this pyramidal type cannot be determined, yet it seems that there are specimens of the kind at points on the Missouri as far north as Dakota and even farther. The pyramids found inside of the celebrated enclosure called Aztlan, in Wisconsin (see Fig. 4), have been compared to those which are common in Middle Tennessee, and the walls with bastions surrounding the enclosure have been compared to those at Savannah, Tennessee, and to those at Evansville, Ind., and it has even been suggested that this ancient city was built on a causeway from the south. It is, at least, the northernmost point at which pyramids have been recognized, the so-called haystack mound in Dakota being considered a specimen. The pyramids in Alabama are on high ground, near the bastioned wall, and overlook the entire enclosure. There is a graded way to one of them and an elevated causeway connecting it with the lodge circle on the bluff below. The effigies are just below the bluff and the truncated pyramids. On the bank of the river are two large mounds, with a level street between them. A low wall can be seen near the lodge circles and a pond near

*The mound at Martin's Ferry, Ind., resembles those at St. Louis, the great mound at Cahokia, Ill., and those near Washington resemble these.

the platform. There are ponds near all the platforms and pyramids, water seeming to have been an essential to the religious assembly places, as in all parts of the country. There are effigies within a mile of this enclosure, and it is supposed that the long irregular mounds inside of the enclosure were effigies.

These pyramids in the ancient city of Wisconsin are interesting because they show that the effigy-builders were also pyramid-builders and perhaps sun-worshippers. The assump-

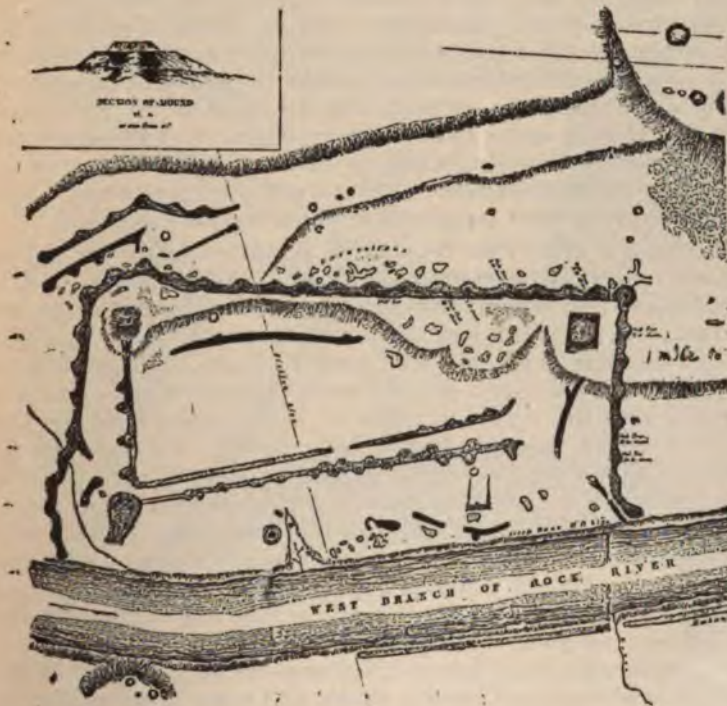


Fig. 4.—Pyramids and Effigies at Aztlan, Wisconsin.

tion has been that marks of architectural progression were observable in the distribution of the ancient works. Prof. J. T. Short says:

“Men all around the world have been pyramid-builders. The religious idea in man has always associated a place of sanctuary with the condition of elevation and separateness. The simple mound, so common in the northern region of the United States, represents the first step in providing a place of worship, the construction of an artificial hillock upon the summit of some bluff or hill. The next step would be the construction of some religious effigy representing animals sacred to the mound-

builders. The enclosures with the truncated pyramids, which are found in Ohio, would be the third step. The highest artistic form is found in the truncated pyramid, with its complicated system of graded ways and its nice geometrical proportions." As a theory, this seems very plausible, but as a matter of fact pyramids are found among the effigies as well as enclosures. The superstition which required the erection of earth-works as the embodiment of their idea of sacredness is an element which is very poorly understood. Sun-worship and animal-worship may have existed together in Wisconsin, as serpent-worship and sun-worship did in Ohio. Fire-worship and serpent-worship seemed to prevail in certain parts of Illinois. The only district where sun-worship prevailed without any mixture of animal or serpent worship was in the Southern States. Here it seems to have been mingled with idol-worship, the progress of thought being as perceptible in the works of art and archæological relics as in the earth-works, the pyramid and idol having been associated in these southern districts.

We base no theory on these facts, merely mention the localities where works of the pyramidal type have been discovered. To some minds they would prove a migration from the north or northwest to the south and southeast, and would show that the mound-builders gradually developed from the low stage of animal-worship up through serpent worship to the higher grade of sun-worship, the different types of earth-works marking the different stages through which they passed. To other minds, however, they would prove the spread of a secret order, or the wanderings of a class of priests or medicine men, who introduced their occult system into the different tribes, making the pyramid the foundation for the houses in which they celebrated their mysterious rites. Another explanation is that tribes migrated from the south to the north, and that as they migrated they took the various religious systems which prevailed among them in their former condition, but in other respects they yielded to the new surroundings and became wilder and ruder in their mode of life, the pyramid being about the only sign of their former state that is left. These are, however, merely conjectural theories. The home of the pyramid-builders as such was not in northern territory, for it is understood that the pyramids are mainly found in the Gulf States, and that in that region they were devoted to sun-worship, which is the cult to which the pyramids are sacred in all parts of the globe.

As to the use of the pyramids, it has been generally supposed that the pyramids were all built on the banks of streams or on low ground which was liable to be submerged. The object of building them was to make them a place of refuge or retreat in time of high water. Such may have been the case with these works near Cahokia, on Cahokia Creek, and yet the pyra-

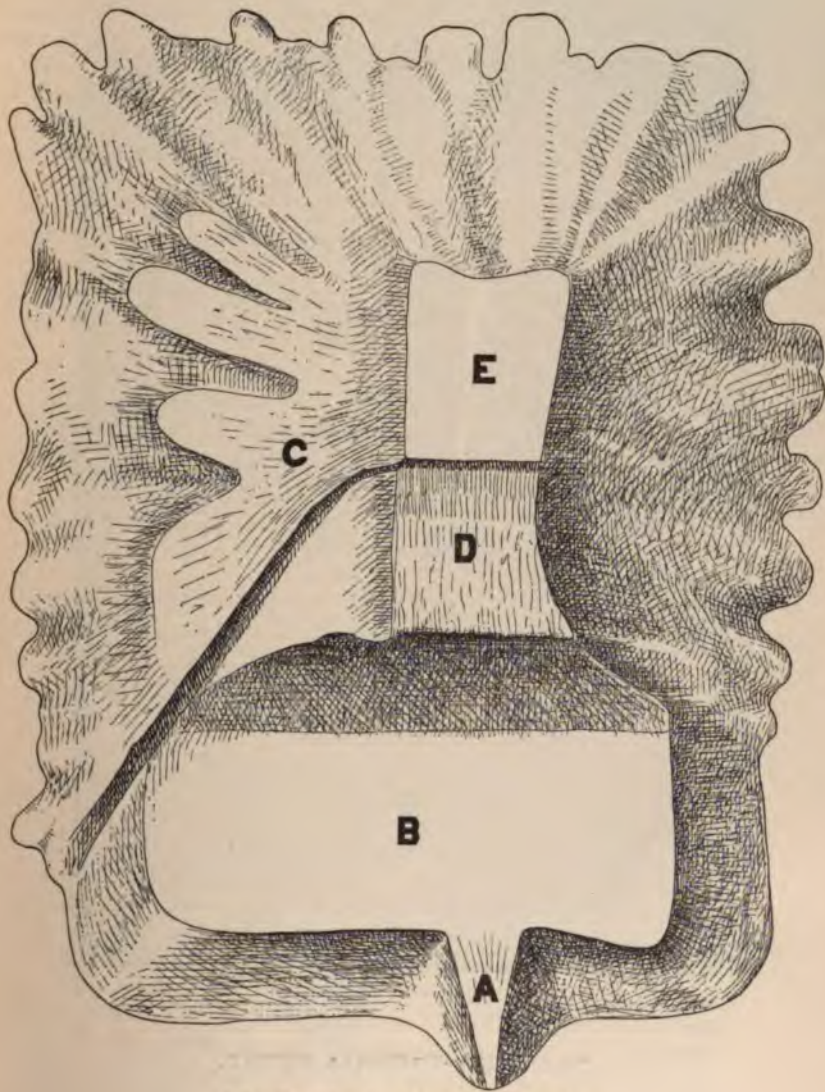


PLATE II.—CAHOKIA MOUND.

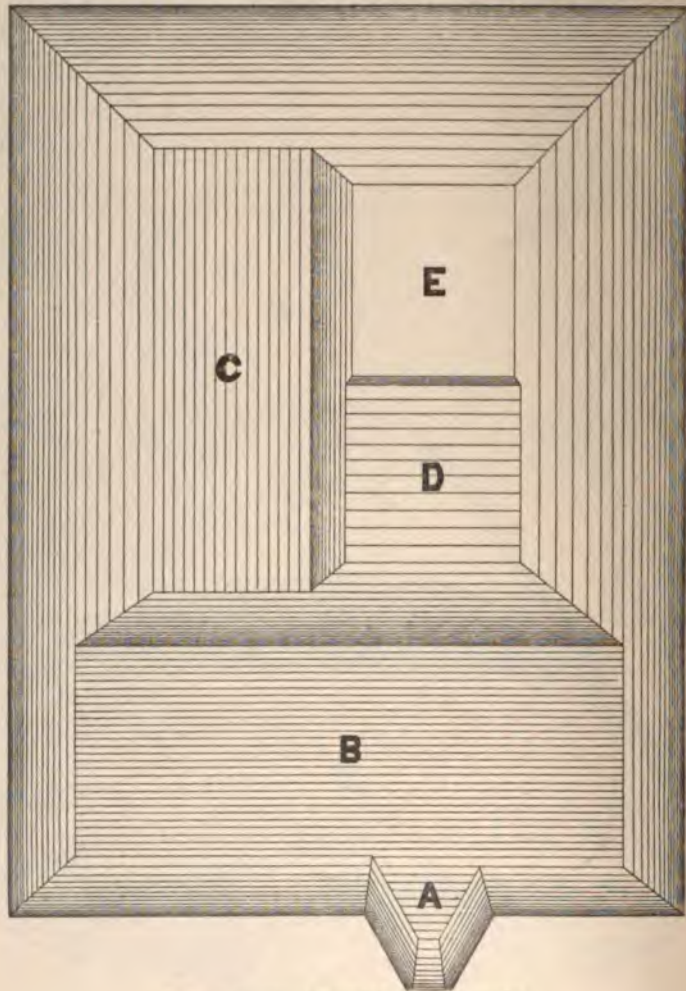


PLATE III. -CAHOKIA MOUND.

mids upon the west side of the river were upon high ground, on the third terrace, which is never reached by the water. The same contrast may be recognized in other places. Many of the pyramids on the Mississippi River are on low ground, and near the banks of the river, or near some bayou which is connected with the river. There are, however, certain pyramids remote from any stream, and situated on high land and in such positions as to preclude the idea that they were built for retreats. The Messier mound is a specimen of this kind. It is not one of a group,

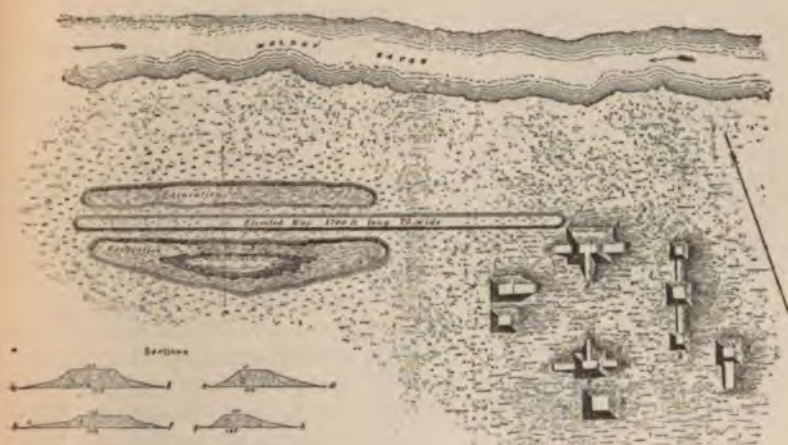


Fig. 5.—Works at Walnut Bayou.

but stands apart, prominent in its size, marked in its peculiarities and attended with a single conical mound. This pyramid reminds us of the truncated platform at Martin's Ferry, West Virginia, though that is in the region where squares and circles are the typical shape. The Etowah mound, in Georgia, is on low ground which is liable to be flooded, but there are pyramids on the left bank of the Ocmulgee River, opposite the City of Macon, which are situated upon the summit of a natural hill, and occupy a commanding position. This, we think, disposes of the idea that the pyramids were built only for refuges for the people in times of high water. They were evidently typical structures, which were erected under the power of some religious sentiments and were the results not only of the religious system but are significant of the tribal organization. The custom among these tribes was to place the houses of the chiefs and priests upon a higher level than those of the common people. There is a great contrast between the works of the northern districts

and those found in the southern or Gulf States in this particular. In the northern districts the hunters' life prevailed, and the people were on an equality with the chiefs and priests or medicine men. In the southern districts the people were agriculturists, but there existed among them a superior class—clan elders, chiefs, and priests or medicine men, having great power; but the people were contented with their exercise of power. This was the case among the tribes after the beginning of history. We call them all Indian, but a great difference existed between the Indians who were mere hunters of the forests in the north and those who were the agriculturists in the south.



Fig. 6.—Works at Prairie Jefferson.

It is said that the public square was the place where all strangers were received, but this was the square around which the ruling classes had their houses, the people placing their houses outside, so constituting a center in which the chiefs were supposed to have lived. Some of the tribes seemed to have occupied the old villages, but made the pyramids and other works useful. In such villages the ancient chunky yard was always at the center, the conical mound at one end, and the pyramidal mound at the other, the public square or residences of the chiefs being upon the truncated pyramid, the assembly place or religious house on the conical mound opposite. The Cherokees used these structures. They built lofty council houses, rotundas, on the conical mounds, making the walls twenty feet high, and then lifting a peaked roof above these, the height of the rotunda at times being at least sixty feet. In these buildings they kept up the sacred fire, which with its spiral flame and smoke was significant to them of the religion of their fathers. We can imagine how imposing these sacred houses were, especially when they were placed on the summit of these lofty truncated cones. The houses of the chiefs and clan elders seem to be equally sacred. They were difficult of approach, lofty stair-cases being built up the sides of the pyramids to them, and guards being placed on the terraces to defend them from sudden attack. We have a picture then of the pyramids as they were occupied by the southern tribes—a picture which is suggestive of their origin and purpose.

This picture is drawn from the descriptions given by the various writers, the historians of Fernando De Soto being the first, and various travelers, Bartram and the Indian agent Adair giving a later view of the works.

IV. We now take up the particular places in which pyramids are found, and shall describe their groupings and various peculiarities. The works at Madison Parish and Walnut Bayou, La, are first. Fig. 5. The group is situated seven miles from the Mississippi River; it consists of seven large and regular pyramids, and a graded or elevated roadway half a mile in length. The roadway is parallel with the bayou, but the mounds are twenty yards from it. The principal structure is 225 feet long, 165 broad, and 30 feet high; has a terrace on the side next the bayou which begins at ten feet above the surface, is ten feet wide, and extends the entire length of the mound. On the south side is a roadway 20 feet wide, which begins 60 feet from the base and leads with a regular grade to the top; at either end of the mound is an inclined platform 75 feet long, 60 feet wide, the lowest end raised only three feet from the surface. A similar mound, smaller in size, faces the pyramid, with a graded way and similar platforms. At the east side are three pyramids which are connected, the central one being 96 feet square, 10 feet high; two others 60 feet square, 8 feet high, the three being connected by a wall or terrace 40 feet wide, but only 4 feet high. One of these terraces is 75 feet long, the other 125 feet long. The graded way is 3 feet high, 75 feet wide, 2700 feet in length. There are excavations on either side 200 feet long, 50 feet high, 300 feet wide. The relative situation of these pyramids to one another would indicate that they were the abodes of the chiefs, that the public square was between them, and that the houses of the common people were situated on the level ground outside of the pyramids.

ANCIENT WORKS AT PRAIRIE JEFFERSON.

NO.	SHAPE.	SIZE OF BASE	SIZE OF TOP.	HEIGHT.
A	Square Pyramid.....	180x135	51x45	48
B	Square Pyramid.....		210x75	5
C	Square Pyramid.....	132x132		4
D	Square Pyramid.....		120x120	4
E	Square Pyramid.....		16x42	10
	Embankment, E to F. 135 ft. long, 15 feet broad, 4 feet high.			
F	Square Pyramid.....		60x78	12
G	Square Pyramid.....		60x71	12
H	Square Pyramid.....		60x74	7
I	Square Pyramid.....		36x45	10

Roadway is 1050 feet long, 12 broad, 3 high. Pyramids E, F, H, I, have terraces and same relation to the central mound. Dirt for embankments was taken from ponds.

The works at Prairie Jefferson resemble those at Madison Parish. See Fig. 6. The group consists of six mounds, which vary

from 4 to 48 feet in height, from 60 to 210 feet in length, 40 to 135 feet in width; all of them are regularly disposed with reference to the temple and the open campus between them. One mound, called the temple, has a level area on its summit, 51x45 feet in diameter. It is reached by a winding way. The mounds which face this temple on the west have great uniformity of figure, being steepest in the rear, but having terraces in front which incline toward the plain or open space. There is an artificial pond near these pyramids, having outlets controlled as the mound-builders desired, the earth probably having been taken

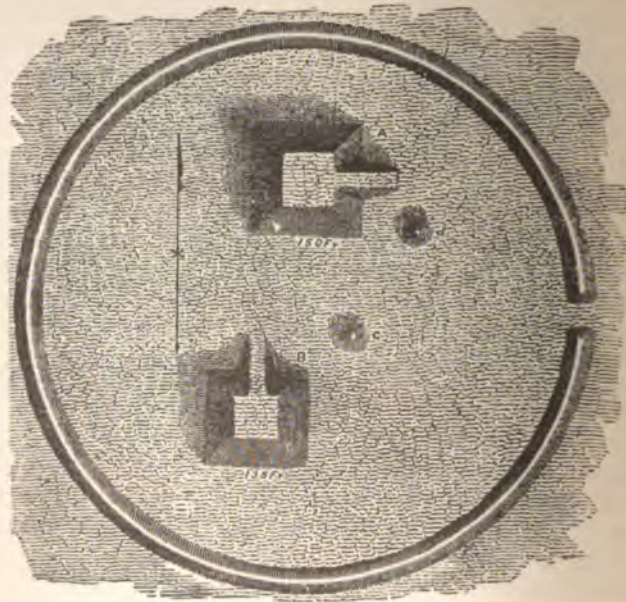


Fig. 7.—Works in Bolivar County, Mississippi.

from it for the purpose of building the mounds. One of these pyramids has been used as the site of a dwelling, reminding us of the structures situated near Cahokia.

The group in Bolivar County, Mississippi, comes next. Fig. 7. It consists of two truncated mounds, occupied by two small conical mounds, the whole surrounded by a circular wall 2300 feet in circumference and 4 feet high. The size of the pyramid is 175 feet square and 20 feet high. Another is 135 feet square and 15 feet high. The conical mounds are only thirty feet in diameter and 5 feet high. The pyramids are orientated. They do not vary from the points of the compass more than two de-

At the junction of the Ouachita, Acatahoola and Tensas Rivers

is a group in an enclosure containing about 200 acres of land, the embankment around it being about 10 feet high. Four of the mounds are of equal dimensions—100x300 feet at the base and 20 feet high. The fifth, which is 80 feet high, seems to have been designed for a tower. The base covers an acre of ground. It rises by two stages or terraces, and the summit is crowned by

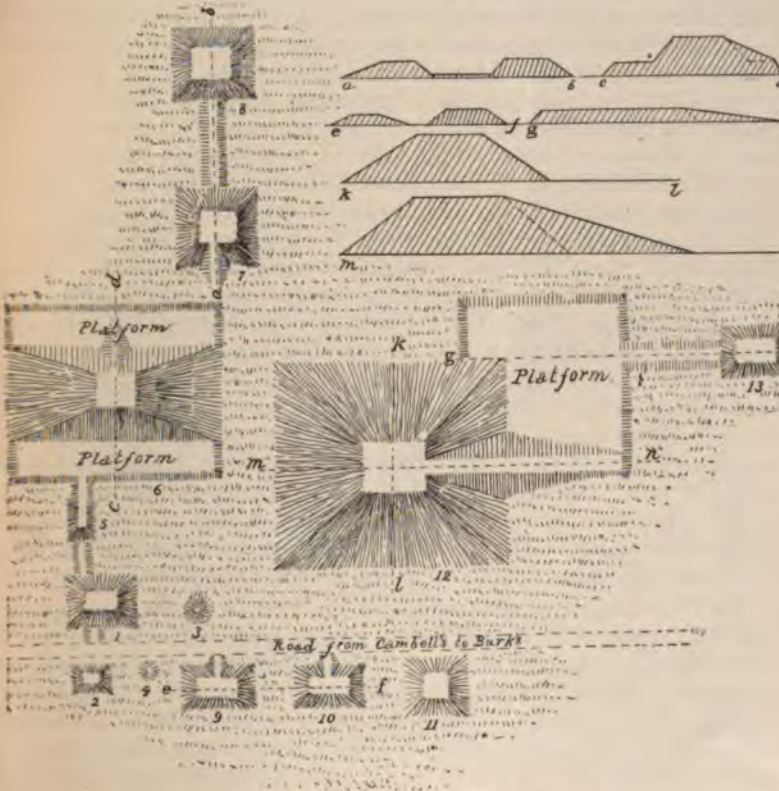


Fig. 8.—Works at Seltzertown, Mississippi.*

a flattened cone. The summit is reached by a spiral pathway, winding with an easy ascent around the mound, which is broad enough to permit two horsemen to ride abreast.

The great mound at Seltzertown is next. See Fig. 8. It is near Washington, Mississippi, and consists of a truncated pyramid 600x400 feet at the base. It covers nearly six acres of ground; its sides correspond to the cardinal points; it is 40 feet high, is surrounded by a ditch which averages 10 feet in depth; it

*Mound A, 180x135 feet at base, 51x45 at summit, 48 high; B, 200 feet at summit, 75 wide, 5 high; C, 132x132 feet, 4 high; D, 120x120 feet, 4 high; E, 60x42 feet, 10 high; F, 60x42 feet, 12 high; G, 60x51 feet, 12 high; H, 60x51 feet, 7 high; I, 36x45, 10 high.

is ascended by graded avenues; the area on the top embraces about 4 acres; there are two conical mounds on the summit, one at each end of the pyramid; the one at the west end is not far from 40 feet in height, is truncated, has an area of 30 feet in diameter. Eight other mounds are placed at various points, but they are comparatively small, being from 8 to 10 feet in height. This Seltzertown mound is more like the Cahokia mound than any other in the Mississippi Valley. It is not quite as large and is not surrounded by many earth-works, yet the two correspond in many particulars; These various pyramids which are scattered along the banks of the Mississippi River indicate a very numerous population. We have no doubt that they mark the sites of former villages. They are very similar in their shapes and surroundings, were undoubtedly built by people of similar tastes and modes of life. M. Fontaine says: "It is probable that the entire course of the river, from Cairo to a point fifty miles below New Orleans, is thickly studded with mounds. The whole region bordering the tributaries was densely populated by the same people." Mr. G. C. Forshey describes works, some of them of immense proportion, on the Mississippi River, and one at Trinity, in the Parish of Catahoula, Louisiana; the same writer observed a mound at Natchez 25 feet high. Prof. Short says: "These observations convince us that the State of Louisiana and the valleys of the Arkansas and Red Rivers are not only the most thickly populated wing of the mound-builders' domain, but also furnished remains which present affinities with the great works of Mexico so striking that no doubt can longer exist that the same people were the architect of both."

V. This subject of differences in population is an interesting one. We may take the different rivers which flow southward from the Appalachian range, and find that there are groups of pyramidal mounds scattered along the valley of each, characterizing river systems. There seems to be a difference between the works of the entire district, those on the Mississippi River and its immediate tributaries being very different from those on the Chatahoochee, Ochmulgee and Savannah Rivers.

We judge that there were two or three classes of pyramid-builders at the south. One class had their habitat on the Mississippi River. They erected their pyramids around an open area, connecting them with walls, the graded ways always being on the side of the area, the pyramids abrupt on the other side. The design of this arrangement was apparently to make the pyramids themselves a sort of defense. The pyramid-builders in Georgia and Alabama depended more upon surrounding the pyramids with walls and ditches and less upon the pyramids themselves for their security. They rarely placed the pyramids in lines, and there seems to have been no provision for an open area between the pyramids. The central pyramid was the

chief object. The various mounds and pyramids surrounding it were scattered promiscuously, without any special order, although we may recognize the associating of the pyramid, which the public square, with the rotunda as frequently here as in the western district.

We turn now to examine some of the groups found on the last named rivers. These have been made familiar to us by the works of Col. C. C. Jones and by the various reports which have been published by the Smithsonian Institute and the Ethnological Bureau. The most noted of these groups is the one at Cartersville, on the head waters of the Coosa River, some sixty miles south of Chatanooga, and about forty miles north of Atlanta. These mounds are situated in the midst of a beautiful and fertile valley. They occupy a central position and an area of some fifty acres, bounded on the east by the Etowah River and west by a large artificial canal. The moat varies in depth from 5 to 25 feet, and in width 20 to 85 feet. There are two reservoirs and an artificial pond near this moat. The enclosure is protected by the river and moat, but it has no earth walls. See Fig. 9. Within the enclosure are seven mounds, three of



Fig. 9.—Etowah Mounds.

them of large size, one surpassing the others in proportions and in interest. This central tumulus consists wholly of the earth taken from the moat. Its form is pentagonal; its dimensions: length of the sides, 150, 160, 100, 90, 100 feet; diameter, 225 feet; height, 65 feet; summit nearly level. The approach to the top is from the east, but was accomplished through the inclined plane which leads from one terrace to another. The terraces are 65 feet in width and extend from the mound toward the southeast. There is a pathway on the eastern angle which Mr. Jones thinks was designed for the priesthood alone. East of the central mound, immediately adjoining it, stands a smaller mound, 35 feet high, nearly circular in form, which has an easy communication with the terraces of the larger pyramid. In a westerly

direction, 250 feet, is a third pyramid. It is pentagonal in form, with a diameter of 92x68 feet, and is 23 feet high. Within the enclosure is a chain of four sepulchral mounds. Outside of the enclosure are two other conical mounds, Dr. Thomas thinks that this mound was visited by De Soto, and that it was the place where the ambassadors of the noted cacique of Cutifachiqui delivered their message to him. Dr. Thomas gives a cut of this mound, and says the broad way winding up the side answers to the description given by Garcilasso, the historian of the expedition, better than any other in Georgia. The smallest of the three largest mounds of the group was opened by one of the assistants of the Bureau and was found to be stratified—three

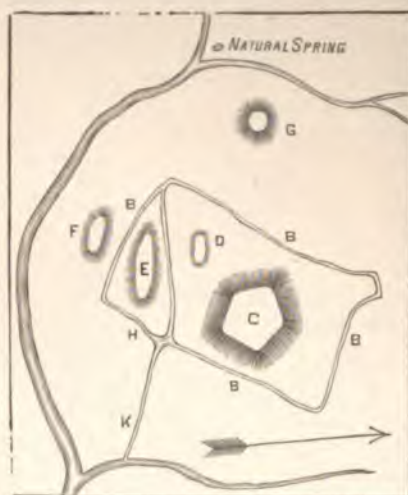


Fig. 10.—Pyramids on Shoulder Bone Creek.

horizontal layers, the lowest of loose loam, next of hard clay, the uppermost of sand and surface soil. There were stone cists in the loam, and in the cists many interesting relics, a description of which is given at length. The most interesting relics are the copper plates, which represent human figures with wings issuing from their shoulders. It is unusual to find winged figures in the mounds, yet enough of them have been found to establish the point that they were of aboriginal and prehistoric origin, and can not be taken as an evidence of the modern date of these stone cists. Another peculiarity of these figures is that they have very peculiar head-dresses—head-dresses which show the use of the so-called banner stones, as in two of them the head-dress is surmounted by one of these double-bladed axes or maces. These figures have in their ornamentation and other peculiarities Mexican or Aztec semblances, the same barbaric splendor being manifested in both. Dr. Thomas argues for the modern origin of these relics, and seems to think that the stone graves at the bottom of this pyramid must have been built by the Shawnees, a northern tribe, which at a late date happened to wander through this valley. The probabilities are in the other direction. The pyramid-builders were not wild Indians, like the Shawnees, but were a sedentary people more like the Muskogees, and yet they may have been older or earlier than the Muskogees and of the same stock with the Mayas or Nahuas of the central province.

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Col. Jones speaks of the stone idols, measuring fifteen inches in height, and numerous terra cotta images of birds and animals found inside these enclosures; also of stone plates and large shell ornaments. He says these relics were not common among the Cherokees, which confirms the impression that they were the results of the labor of the modern Indians. The great age of the structures is shown by the trees which formerly grew on them and by the abandoned condition of the group. Traces have been found of hearths or altars upon the central mound, giving evidence of the presence of fire and perhaps of sacrifice. The broad terraces and the adjoining pyramids would afford space for the assembling of the worshipers at the appointed hour, when upon the elevated eastern summit the officiating priest caught the earliest rays of the rising sun as it lifted its face from off the shadows of the distant hills and smiled upon this beautiful valley. The terraces lie toward the east, and everything about the tumulus proves that it was erected for religious purposes and was consecrated to the great divinity of the sun. It is probable that the canals were used as fish preserves, as the fishes could be introduced from the rivers into the reservoirs and there propagated. Everything about the locality shows that it was a village of the Mound-builders.

Next come the pyramids of Little Shoulder Bone Creek, in Hancock County, Georgia. See Fig. 10. This was also on the banks of a stream, and was surrounded by moats and excavations. The total area is but four or five acres. There is but a single pyramid in the enclosure. It is a truncated pentagonal mound, measuring 180x184 feet at the base, 80x88 feet at the summit, 40 feet high. The approach was from the east, but the summit was perfectly level. A truncated cone, measuring 140 feet at the base and 52x42 at the summit, 16 feet high, is near. This may have been the rotunda, though it is 150 yards distant from the pyramid. Within the enclosure, stone idols, clay images, with human shapes and others imitative of beasts and birds, similar to those in the valley of the Etowah, have been found. Every indication suggests that the locality was for a long period of time densely populated.

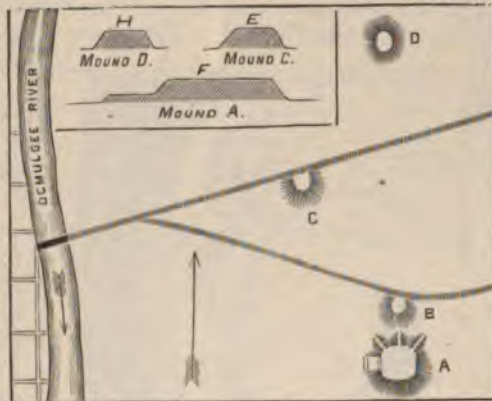


Fig. 11.—Pyramid on Ocmulgee Creek.

The pyramid on the Savannah River is next to described. This pyramid is situated twelve to fifteen miles below the City of Augusta. It is also surrounded by a moat. There are two mounds in the enclosure; the largest measures 58 feet in diameter at the summit, 185 feet at the base; it 37 feet above the plain and 47 above the water level. The western flank of the mound extends for a distance of 20 yards. Beneath the surface is a layer of charcoal, bones, shells, ashes and baked earth 12 inches thick, showing a long-seated encampment. There was, 125 feet east of this, a smaller mound, having a base diameter of 114 feet, 15 feet above the surface of the ground. Terra cotta vases, pots, arrows, spear-heads, mortar pipes, bone and shell beads are found in the adjacent field.

Next comes the mounds on the Ocmulgee, opposite the City of Macon. See Fig. 11. These are located on the summit of a

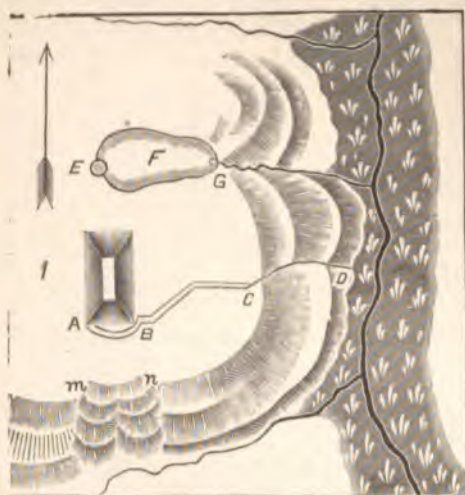


Fig. 12.—The Messier Mound.

hill. The earth was taken from a valley and conveyed to the top of the hill. There are four mounds in the group. One of them is a pyramid with three spurs or elevated approaches, and an artificial plateau or platform 8 feet high, 72 feet long and 93 feet wide. The summit diameters of this are 180 and 200 feet, its elevation 45 or 50 feet. It is not improbable that this was the central mound. There is a companion mound or cone 100 feet north. It is 10 feet high, elliptical in shape, 128 feet in length. A third mound is distant 300 or 400 yards northwest, and a fourth 400 yards northeast. An interesting fact is that this mound was excavated while the track of the Central railway was being made. At a depth of three feet several skulls were exhumed, and associated with them were stone implements, Venetian beads, copper hawk bells. At the bottom of the mound a skull was found which was distorted and flattened, and differed in every respect from the first skull. Who these flat-head mound-builders were is a matter of conjecture. The Creeks did not claim that these tumuli were erected by them. They declare that they were here when their ancestors possessed themselves of the region.

The Messier mound is next. See Fig. 12. This is a four-

sided pyramid, 324 feet long, 188 feet wide, 57 feet high; the summit is 156 feet long and 66 feet wide. It is situated upon the summit of a hill. It stands apart, prominent in its size, and commands an extensive view. There are other smaller mounds near by. It is a large mound, and contains about 75,000 cubic yards of earth, which would weigh from 90,000 to 100,000 tons. There is a ditch and moat near by, which probably furnished the earth. Its area is about two acres; average depth, 25 feet. At one point an immense circular well, 60 feet in diameter, and



Fig. 13.—Walled Enclosure.

40 feet deep, can be seen. There formerly existed in the vicinity lines of earth-works a mile in length. Mr. Jones says: "The Messier mound was erected not for defensive purposes, but as a temple. In the religious festivals of primitive people ablutions serve an important part, and the convenient presence of water was deemed essential."

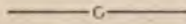
We might speak of other pyramids. One at Bobone, 9 feet high and 70 feet in diameter, stands on the inland tide marsh near the sea coast. The second is on the Kolee Mokee Creek, in Early County. See Fig. 13. The pyramid occupies the cente

of a fortified enclosure, around which there are extensive earthworks or walls, with a prominent gateway and bastions at the gateway. The pyramid is 350 feet by 215 feet at the base, 181 feet by 82 at the summit, and is 95 feet high. There is a pit at the south end of the pyramid, from which the earth was taken. A companion mound to this was 24 feet high, 72 feet in diameter. A ditch leads from the mound to the creek, 20 feet wide and 400 yards long. The walls surrounding the enclosure are at present about 30 feet wide. They are very low, not over 18 inches in height, and probably mark the site of an old stockade. There is a double line of walls on the south or southwest. On Dry Creek, in the same county, is a burial place, where in an area of fifty-one acres, eighty-three mounds are situated. They vary in height from a few inches to 10 feet, in diameter from 15 to 30 feet. This pyramid inside a walled enclosure is a rare instance, for the majority of them are only protected by the moats or ditches. There are, however, fortifications in the state, but they are generally found upon the mountains. One is situated upon Stone mountain. Near the summit it has a gateway protected by a large overhanging rock, the fortification being very strong in its natural defenses. Another is on the Yond mountain, which is a cone 4,000 feet high. It is also walled with stone. Mr. M. F. Stevenson says: "All defensible mountains in this country were fortified. Neither the Cherokees, Creeks nor Seminoles had any tradition of the extinct race. The names of localities where mounds are found in this State are somewhat significant. A cemetery is found at 'Druid Grove;' two are on the Black Beard River;' the big mound is on Bourbon Creek; the eighty-three mounds are on the Dry Creek, in the 'Sacred Grove'."

This finishes the list of the large pyramid mounds in Northern Georgia. Still, Mr. Jones says: "There is not a considerable stream within the limits of Georgia in whose valleys tumuli are not found." Mr. Wm McKinley says that in the hill region of middle and upper Georgia almost every acre has ancient stone weapons—its arrow-heads, javelins, dirks and battle-axes.

As to the builders of these pyramids, we are unable to speak with any certainty. There are those who say that they were built by the Creeks, Chickasaws and other tribes of the Musko-gee stock. Others say that they were built by the people who preceded them, and are much more ancient than any known tribe of Indians. A comparison has been drawn between these pyramids of the south and the stone pyramids of Mexico and Central America. The same type of structure appears in all these countries. There is much that is suggestive in this comparison, yet we are to be cautious as to the conclusions which we draw from it: The pyramid-builders may have migrated from the Gulf States to the southwest and have become the

pyramid-builders of the central provinces. This is one theory. Another is that the migration was in the other direction, the mound-builders of the south were only colonies from the central provinces. A third theory is that both belonged to a common stock, the starting place was in the region of the pueblos, though there are no genuine pyramids in the pueblo district. It is useless to conjecture in reference to the origin of the pyramidal mounds until we find more facts to base our conjectures upon. All we can do is to describe the works as they are.



“ASMID SIKHAR,” OR “THE SUMMIT OF BLISS.”

BY J. C. THOMPSON.

In the district of Hazaribagh, some two hundred miles from Calcutta, stands Parasnath, the holy hill of the Jain devotees, and the site of the apotheosis of the sage Parasvanatha and his comrades. Formerly it was a matter of considerable difficulty to get there, but now the train runs as far as Giridhi, one of the chief stations of the coal industry of Bengal, which is only sixteen miles from the base of the hill. Last Easter a companion and myself paid a visit to this place, so venerated by all the followers of the Jain faith. The Jains, I may mention, are Hindus who, many centuries ago, relinquished the Brahminical religion and adopted one which may be described as a compromise between Brahminism and Buddhism; but though they have many points of affinity with the Hindus, they are looked upon by orthodox believers as impure. At Giridhi, my friend, a north countryman, said he could almost believe himself in Lancashire again, as he watched the trucks trundling along the blackened roads and the smoke issuing from the pit chimneys. There, however, the resemblance ceased; the slight, almost naked, and nearly jet-black figures of the men at work bearing but little resemblance to the brawny forms of our northern colliers. They nearly all belong to the aboriginal tribes, the Kols, the Sontals and the Bauris, though there are also amongst them a certain number of low-caste Hindus and of the poorer classes of Muslims. We found that we could get no horses, the only means of conveyance being light carriages, propelled by coolies, whose slender make did not give a very good promise of strength, but who managed to bring us along at four miles an hour under a broiling sun, encouraging each other as they pushed with a peculiar and most unmelodious sing-song.

Eight miles from Giridhi we came to the Barrakur, a fine broad stream, three or four hundred yards in width, but which at the time of our visit was absolutely dry. It is remarkable

for the extreme rapidity of its rise and for the strength of its current, which after a heavy rainfall, often renders it impassable for days together. There is no bridge, but a boat is provided for travelers during the rains, and there is also a rude contrivance for swinging the mails across. On the bank is a Jain temple of fair size and some pretensions to beauty, the style being the usual inverted tea-cup shaped cupola distinctive of the temples of the sect. Here, too, we came in sight of Prasnath, and after the monotonous flatness of Lower Bengal our eyes rested with infinite relief on the blue outline of the mountain, with its eight rugged peaks, looming dark against the horizon, as they rise abruptly from the low, undulating country characteristic of most coal districts. Nearly 4,500 feet in height, and surrounded by hills of greatly inferior altitude, the effect produced is very striking. By the Jains it is called emphatically "Asmid Sikhar" or "The Summit of Bliss," and as the eye leaves the arid plain and rests on its majestic outline, with tints that vary from hour to hour, each in the pure, clear atmosphere seeming more beautiful than the last, one can scarcely wonder that it should have attracted to itself the hermit Parasvanatha, or that his followers, apart from the memories evoked by his name, should regard it with a peculiar veneration. From the Barrakur the road winds through a continuous jungle of sal trees, which even at that season of heat and drought retained their green foliage, forming a striking contrast to the parched brown soil on which they grow.

At Madhuban, at the foot of the hill, we found another cluster of Jain temples, and a number of coolies waiting to carry us up the hill in doolies. A "doolie" is merely a stretcher of plaited straw to which a pole is attached. The occupant reclines on this, with his legs extended in front of him, and holds on to the pole with his hands, the ends of the pole resting on the shoulders of the bearers. It was about twelve o'clock, and the heat was intense, so we were only too glad to make use of them, as the garden of the planter whose guests we were, is half-way up the hill, and rather over 2,000 feet in height. The jungle has never before been cleared, and the thick deposit of vegetable mould which forms the soil is admirably adapted for tea cultivation. Here, too, the great difficulty of the Assam planter—"the labor question"—is absent; many of the Assam coolies are, in fact, recruited from this very district. The scanty rain fall is, however, a serious drawback, and the yield of tea is consequently much less than the average yield in Assam, being only about three maunds an acre, whereas many gardens in Assam will give eight and even ten maunds. (A maund is about eighty pounds.) The tea is a delicate-flavored aromatic variety, somewhat resembling that grown in the Kangra valley in the northwestern Himalayas. Only about 250 acres have been brought under cultivation in this garden, and there are

only one or two gardens in the whole district, which is as a rule unsuited to tea growth. The garden is worked partly by Bengalis and partly by Sonthalis, who have each separate villages on the outskirts of the clearing.

In the evening our host got up a Sonthali nautch or dance for our amusement. Twelve or fifteen women joined hands and danced to the drumming and fifeing of two men, who played in front of them, and receded and advanced as the line of women with linked arms swayed to and fro in the different movements of the dance, singing as they kept time to the music. The dances seemed to be almost entirely religious in character, and to consist of invocations and thanksgivings to the deities; the whole line now and again stooping down as though to gather up something, which as they rose they offered with extended hands as a propitiatory gift. The steps were slow and measured, the bodies swaying and the feet moving in perfect time to the cadence of the slow and rather monotonous music. The Bengali coolies, hearing what was going on, became jealous that no attention was paid to them, and brought up their women also to dance, and for some time the two bands danced side by side in rivalry. The scene was most weird. Behind the bungalow were the dark peaks of Parasnath, lit up by the rising moon, while far away beneath us, through an opening in the forest, we caught a glimpse of the plain beneath, shrouded in the deep shadows of night. Immediately in front of the bungalow the torches threw a fitful glare over the thick jungle around, and brought into strong relief the strange, half-naked figures moving to the sound of the wild barbaric music, the Bengali men working themselves into a perfect frenzy as they thrummed and shouted to the women, whose voices shrilled out and died down in response, as the mad excitement of the dance waxed and waned. The Bengali dances are not nearly so graceful as those of the Sonthalis, and their music is much harsher. The women cover the whole of the body and head with the long "saree," a piece of cloth eighteen feet long, which forms their only garment. The Sonthalis, on the contrary, after wrapping it round the loins, merely throw the end over the left shoulder, allowing it to hang gracefully down the back, leaving the head and part of the shoulders bare, the effect being infinitely more pleasing. After the nautch the instruments were brought to us to examine. The Sonthali drum is a long, round hollow instrument made of porcelain, and a good deal wider at one end than the other; the ends are covered with tightly stretched leather and the sides are protected with netting. The sound is produced by the fingers, and is deeper and more melodious than that of the ordinary Bengali tom-tom, or of the semi-circular Mohammedan drum. The flute is, however, par excellence the Sonthali instrument. It is made of bamboo, and is about two feet in length and an inch in diameter. With this

they call to each other in the jungle, the note produced being peculiarly full and mellow.

They are a fine, manly race, but certainly not good-looking, and Colonel Dalton's description of them is much to the point. He says: "The Sonthalis are noticeable for a vagueness in the chiselling of the features; a general tendency to roundness of outline where sharpness is more conducive to beauty; a blubbery style of face, and both in male and female a greater tendency to corpulency than we meet in their cognates. Their faces are almost round, cheek-bones moderately prominent, eyes full and straight, not obliquely set in the head; nose, if at all prominent, of somewhat a *retroussé* style, but generally broad and depressed; mouth large, and lips very full and projecting; hair coarse, straight and black. Mr. Mann remarks of them, and I concur in his remark, that their cast of countenance almost approaches the negro type. The females, he says, have small hands and feet, and are ox-eyed, and these are characteristics which the tribes linguistically allied to them do not possess." The women are much stronger and bigger than the Bengali, and struck us as being altogether of a better stamp. Their voices are deep and rather musical, not harsh and shrill like those of the Bengalis.

Dalton thinks the Sonthalis are probably of Turanian origin and have lost their distinctive Mongolian features by intermarriage with the black aboriginal races of Central India. If so, they must have come down from the Himalayas long before the Aryan invasion. They have never mixed with the Hindus, and have preserved their religion and customs almost intact. Their hatred of the Hindus is indeed so great that during the famine of 1866 they preferred to die rather than to eat the cooked rice which was given out, because it had been prepared by Brahmins. Like the Greeks, they are polytheists, and they believe that all main objects of nature—the forest, the hill and the stream—are the abode of spirits. Their chief object of adoration is the spirit of the great mountain, not Parasnath in particular, which is not to them especially sacred, but of every great mountain. Most of the aboriginal races worship the Naga, or great snake, but the Sontal whom we questioned denied that they did so. Their keen sense of humor, their frankness and independence of character, their strong feeling of honor and regard for the truth, render the Sonthalis infinitely more attractive than most of the races of Bengal. Their treatment, too, of their women is more in harmony with western ideas than that of most oriental races. They seldom have more than one wife, and infant marriages are unknown. Their marriages are marriages of affection, and their women, who enjoy a considerable amount of freedom, are treated with consideration and respect. Our host told us of a characteristic incident which occurred on his garden some few years ago. A new

manager had just come out, a raw Scotchman, to whom he had given over the charge of the garden, warning him to be careful in his treatment of the Sonthalis. Finding, however, that the women were very dilatory over their work, he one day struck several of them with the palm of his hand, upbraiding them for their laziness. The Bengalis thought nothing more of the matter, but the Sonthalis went off and told their husbands. Soon after that the babu, or native clerk, was passing through the garden, and noticed the Sonthalis taking the long handles out of their hoes, and, on enquiring the reason, was told that the sahib had struck their women and that they were going up to thrash him for it. Off rushed the babu and just managed to get the manager away into the jungle before the bungalow was surrounded by some fifty angry Sonthalis, who would most certainly have carried out their threat. The manager had to make his way down the hill as fast as he could, and remain there until the babu had succeeded in pacifying the men.

The chief blot on the Sonthali character is their tendency to drink, a failing rendered much worse of late by the legislation regulating the liquor traffic. Formerly their chief drink was rice beer, which they made themselves and only used to excess on festivals and poojahs. It is a mild, harmless drink, of which a great deal must be taken to induce intoxication. Government, however, have forbidden its manufacture by private individuals and have forced every one to go for liquor to the licensed dealers, who sell a fiery drink made from the flowers of the Mohwa tree (the *Bassia latifolia*). This pernicious stuff is retailed at from two to four pice a bottle, and one bottle is sufficient to make a man drunk. A pice is about a farthing and a half. There are now liquor stores close to every garden, where the greater part of the week's earnings is often intercepted almost directly after being received. If greater difficulties could be placed in the way of obtaining this drink it would be a great boon both to the employers of labor and to the men themselves.

The Sonthals are also grossly superstitious, and believe implicitly in witches. A very slight thing will arouse suspicion, and if once a woman is suspected, her doom is sealed. It is meritorious in any one to kill her, and the whole community will screen the murderer, who is regarded as having conferred a public benefit. Under English rule so many persons have been executed in cases where the crime has been brought home that now they are rather afraid to put a suspected witch out of the way, but she becomes an outcast, a pariah, with whom none will associate and whom none will assist. She has either to starve or to obtain work among the Hindus, remaining an alien to her own people for the rest of her life.

Parasnath used to be noted for the number and variety of wild animals to be found there, but of late years they have been very much thinned. A story is told of an encounter there with

a tiger. The late Sir Cecil Beadon, when lieutenant-governor of Bengal, was walking with a friend along the crest of the hill, when scarcely a hundred yards from them a sambur or Indian elk burst out of the jungle, closely pursued by a tiger, which, absorbed in the chase, did not notice their presence. They watched it pull the sambur down, and then rushed up hallooing, and the beast very reluctantly left his hard-won dinner for them to enjoy. Once a year the Sonthals, who are very skillful with their bows and arrows, have a monster beat. They burn the underwood in the jungle, and beat right across the hill, driving everything before them. Unfortunately this beat had taken place a few days before our arrival, and though our host arranged one for us, nothing was driven past except three or four sambur, and only one of us succeeded in getting a shot, and that he missed. As the beaters came up we heard them laughing at our discomfiture, and asking who the duffer was who missed. Their sense of humor is very keen, and they gratify it in the most unexpected ways. Our host told us that some years ago he was out shooting with a friend in this district. They had very bad sport, and his companion abused the beaters for scattering. The Sonthalis said nothing, but guided them into the thick of the jungle and then quietly disappeared, leaving them to find their own way out, which they did not succeed in doing until the following morning, having had to pass the night there.

After the beat was over, we visited each of the eight peaks in succession. At different points on the crest of the hill are twenty gumtis or shrines, each containing a footmark. These are worshiped as the imprints left by the Tirthankaras, the pilgrim comrades of Parasvanatha, at the moment when they finally quitted the earth and attained the condition of Nirvana, or total extinction. Near the summit is a Jain temple, containing rather a fine image in black stone of Parasvanatha, sitting cross-legged in the usual attitude of Buddhistic contemplation, with the hooded cobra extended over his head, which forms the distinguishing mark of the images of this saint. Some say that one day a heavy shower of rain fell while the saint was busied with his devotions, which would have disturbed him, and that the king serpent Dharna came to protect him. Others assert that the serpent was sent by the supreme god Mahadeo to keep off the contact of all evil things from the saint during the period of his Tapasya or abstract contemplation. The temple itself is of the ordinary cupola shape, and far from well kept, the garden especially being in a very slovenly condition. A few gайдas or marigolds, which are never absent from Hindu temples, were growing around the walls, but we looked in vain for the holy tulsi or basil, which is so greatly revered by orthodox Brahmins. We were not allowed to go into the temple, but to stand outside and look in, and on the path leading to it is a notice that "No Europeans, Mohammedans or low-caste

Hindus" are to enter the temple, which greatly excites the wrath of many who go up the hill, and shows plainly enough what the native feeling toward us is. We are looked upon as Mlechas, or unclean folk, whose very touch is pollution, to be atoned for by ablutions and penitential rites. The greater part of the mountain belongs to the rajah of Palgunj, and when it was known that he had determined to lease part of it as a garden, the horror expressed by the priests was great. They tried at first to interfere with the work, but were informed that they were trespassers, and that if they made their re-appearance the Sonthalis would eject them more forcibly than politely. We found that they had no objection to the touch of English money, or at any rate were quite willing to risk contamination. The writer was told by a friend who ascended the mountain nearly thirty years ago, that there was then no road to the top, and that they had to cut their way through the jungle as they went. When they arrived at the summit there was nowhere to sleep except in the temple, which, it not being pilgrimage time, they found empty and unguarded in any way. It was very cold and the tigers and panthers numerous, so they took possession and lived in the temple several days. Their servants, however, all bolted, for fear of the bhoots or evil spirits. The next batch of pilgrims must have been much scandalized at the traces of their stay within the holy precincts themselves.

The Jain religion is so interesting a study that a short description of it may not be out of place here. The following summary is derived chiefly from Dr. Hunter's interesting statistical account of Bengal. Jainism is described by him as a compromise between Buddhism and Brahminism, the word Jaina itself meaning "a vanquisher of human infirmities." The resemblances between it and Buddhism are many. Both lay down that it is sin to destroy animal life, which by the Jains is described to be "without beginning and without end." "Through sin it passes through animals or goes to hell; through vice and virtue combined it passes into men, and through virtue alone it ascends to heaven; through annihilation of both vice and virtue it attains emancipation." The chief impediment to emancipation is pap or sin, which is defined as the cause of unhappiness to mankind, and under which are included all human passions and infirmities. These hindrances to liberation are counterbalanced by Samvara, which is the power of rightly directing and controlling the senses, in contradistinction to Asrava, their wrong direction, and by Nirjara, or the practice which destroys or wears away earthly impurities. This latter is divided into external nirjara, comprising fasting, silence and bodily suffering; and internal nirjara, which consists of repentance, piety, protection of the virtuous, meditative abstraction, and disregard both of virtue and of vice as mere modes of action. Moksha, or final liberation from the chain of works, is described in the following

beautiful words: "As a bird let loose from a cage plunging into water to wash off the dirt with which it was stained, and drying its pinions in the sunshine, soars aloft, so does the soul released from long confinement soar aloft, never to return." Compare this with the Buddhist declaration of faith—a faith whose pole-star is negation, but whose converts nevertheless are more numerous than those of any other religion in the world, "Our Bhagavat has attained Nirvana, where there is no repetition of birth. We can not say that he is here or that he is there. When a fire is extinguished, can it be said that it is here or that it is there. Even so our Buddha has attained extinction. He is like the sun that has set behind the Astagiri mountain; it can not be said that he is here or that he is there; but we can point him out by the discourses which he delivered. In them he lives, or as George Eliot has paraphrased it,

"Oh, may I join the choir invisible
Of those immortal dead, who live again
In minds made better by their presence."

The great distinction between the Brahmin and the Buddhist ascetics is that the former seek by continual self-mortification to be freed from the transmigration imposed on the spirit by absorption into the essence of Brahma, there to dwell forever; whilst the latter seeks, not the bliss of absorption into the source of all spirit life, but a release from the toils and labors of a weary round of change by the utter extinction of the spirit. This does not seem to the western mind a very strong inducement, yet it has been the goal to reach which many millions have yearned and striven. The five Jain Mahavratas, or chief moral precepts, are almost identical with the Buddhist panchasila, viz: tenderness for animal life, truth, chastity, honesty and restraint of worldly desires. The Buddhist practice of auricular confession is also strictly enjoined. In this the Jain and Buddhist religions bear a striking resemblance to the Roman Catholic, a resemblance which has been pointed out and commented upon by the Abbe Huc in his "Travels in Thibet."

Besides these main tenets the Jains formulate a number of minor and somewhat grotesque instructions; such as not to go into the open air while it is raining or after dark for fear of swallowing a fly. To strain water thrice before drinking it, and not to walk against the wind lest it should blow insects into the mouth. Some ardent devotees even go so far as to carry a brush to sweep insects away before sitting down, and a Mohomati or mouth cloth that insects may not be swallowed when they are engaged in prayer. The Jains also deny the divine origin and infallible authority of the Vedas, no doubt, as Prof. Wilson has pointed out, on account of their enjoining sacrifices. But though the resemblance to Buddhism is so strong it is a curious fact that the priests in the Jain temples are Brahmins, who conduct the ceremonial rites, and who are quite distinct

from the Yatis or devotees, who are entitled to dispense with acts of worship. The Tirthankaras or sages, of whom Parasvanatha was the last and greatest, performed no rites themselves, and gave no directions for their performance by others. The Jains also recognise the Brahminical division into castes, which the Buddhists entirely reject. A converted Jain, moreover, is received by the Brahmins, and acknowledged either as a Kshatrya or as a Vaisya, two of the Brahminical castes. The Jains, however, like the Buddhists, perform no shradh or annual funeral ceremony in memory of a deceased father, which plays so important a part in the life of every orthodox Hindu, whose fear is that he will die childless and leave no one behind him competent to perform the necessary rites of which the very name of a son in Sanscrit is significative. It is "putra," i. e., one who delivers the soul of his father from the hell which is called "put." Neither Jains nor Buddhists believe in vicarious atonement, each man must work out his own salvation, and herein lies the main-spring of their strength, and the secret of the attraction which they have so wonderfully exercised. Among themselves the Jains are divided into two great sects: The Digumbari or sky-clad, who wear colored garments, and the Svetambaria or white-robed, who dress only in white. The former are believed to have worn no clothing at all, but this has long since ceased to be the case. It is said, however, that they still feed unclothed, and their images are entirely nude. The Hindu name indeed for the Jains is "worshippers of the naked god." This custom, however, does not hold good with the Svetambari Jains, who eat clothed, and whose images are bedecked with gold and jewels like those of the Hindus. The most prominent point of difference between the two sects lies in the position respectively assigned to women, the Digumbari Jains asserting that they can never attain to Nirvana or total emancipation, while the Svetambari more gallantly declare that they can. The former, moreover, make use of the "chandana" or sandal-wood, with which all Hindus mark their foreheads and breasts after bathing and before eating, and with which they mark their images and shrines. The latter do not use it, and when they find it on the images they rub it off.

The relations between the two sects are, however, most amicable. About ten thousand pilgrims are said to visit the hill annually, many of whom are very wealthy, the Jains being noted for their commercial acuteness. It is without doubt that the Jain religion is of very ancient origin, but the precise date of its promulgation can not be ascertained. Some writers assert that Gautama Buddha was himself a pupil of Parasvanatha. Others argue from internal evidence and with greater show of reason that it is posterior in date to Buddhism. In Dr. Hunter's interesting work on Orissa it is suggested that as Hinduism seemed on the point of destruction before the great wave of Buddhism

which swept over India, it made a last great effort by a compromise with the followers of Vishnu, the preserver, to supplant the horrors of the worship of Sceva, the all-destroyer, by a religion of beauty and love. According to this hypothesis, in the old settled and strongly Aryan provinces, this composite creed assumed the highly spiritual form of Jainism, while in other districts it became either Vishnuism, that is to say sun worship pure and simple, or worship of some incarnation of the bright and genial god. It is to this compromise that he attributes the once great but now ruined temple of the sun at Kanarak in Orissa, the memorial of a faith now so utterly extinct that a cultivated Bengali, to whom the writer referred for information, confessed never even to have heard of its existence. Whichever hypothesis be the right one, it is certain that Jainism dates from a very remote epoch, and the thought added in no small degree to the feeling of solemnity which every great mountain inspires. That the half-naked priest with whom we were talking was the representative of a religion which was in full vigor when England was still enshrined in barbarism, and that the ceremonial rights of which he was the exponent, and which now mean so little, have been performed on that very spot, in precisely the same way, by generation after generation; each succeeding age guarding with jealous care every trifling observation inculcated by the founder and his disciples, until at last it has come to be hedged round with a superstitious reverence obscuring its original significance. It was a sad thought that this religion in its inception so full of noble ideas and of revolt against the debasing creeds of the day, should have gradually sunk to the level of a mere degraded superstition, whose votaries know not the meaning of half the rites they practice nor of the tenets they profess. Of a truth there is no intellectual and religious death like the "deep slumber of conviction" that will admit of no argument, and unable to change with the exigencies of succeeding times, is bound firmly down by fetters forged for it in the dim vistas of the past.

A GIANT STORY.—A-COOKWÉS.

BY S. T. RAND.

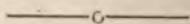
Some little boys were out hunting; A-cookwés, a giant, was prowling around watching for his prey, hunting for people. In order to attract the boys, he imitated the noise of the cock part-ridge, the drummer. This he did by slapping his palms upon his breast. The little boys, hearing the noise, were deceived by it and fell into the trap. The huge giant—they are amazingly strong, covered with hair, and are cannibals, regular gorillas—seized the boys and intended to dash their heads against a stone, but mistook an ant-hill for a stone, and so merely stunned and did not kill them, except one; one was killed. The giant then placed them all in a huge *boochkajoo*, a large birchen vessel, and strapped them on his back and started for home. The boys soon recovered from their stunning and began to speculate upon their chances for escape. It certainly must have seemed rather a hopeless undertaking, but we never know what we can do till we try. One of the boys had a knife with him, and it was agreed that he should cut a hole through the *boochkajoo* and that one after another they would jump out and scud for home. In order not to awaken suspicion, they waited until they heard the limbs rattling on the bark as the giant passed under the trees before the process of cutting commenced. As soon as the hole was large enough one slipped out, and another and another, until all were gone but the dead one, the giant being so strong he never perceived the difference in the weight of the load. When he arrived at home, he left his load outside and went into his wigwam. There he had a comrade waiting for him, to whom he communicated his good success. But on opening the cage, the birds had flown, all but one—Tokoo-so-goobahsijik. Then they proceeded to roast the prey,* and sat down by the fire to watch and wait till it was done.

The children soon reached their home and spread the alarm. A number of the men armed in hot haste and pursued the giant. Before the meal was cooked they reached the place. "Whiz!" came an arrow, and struck the one who had carried off the children in the side. He made a slight movement and complained of a stitch in the side. Soon another arrow followed and another, but so silent and so swift that neither perceived what they were; but the fellow fell slowly over as though falling asleep. His companion rallied him on being so sleepy and going to sleep

*By impaling him on a stick and placing him before a hot fire.

before his tender morsel had been toasted. But soon he also began to be troubled. Sharp pains began to dart through him, and sharp darts to pierce him, and he also fell dead.

The above story was related to me by Peter Toney as an illustration of the stupidity as well as the physical strength of the giants. It will be observed that in this they resemble their brethren of European fiction. Those that "our" renowned "Jack" slew were some of them remarkably stupid, the "Welsh giant," for instance.



EARTH-WORKS AND STOCKADES.

By W. M. BEAUCHAMP.

Two interesting questions belong to defensive earth-works and stockades, relating to their comparative age and character. In treating of these I need say little of the larger and complex forms of the former, these requiring too much space and time. The simple ones of New York and the east may suffice to show their leading features and to connect historic and prehistoric periods.

In both earth-works and stockades of that region there is no typical outline of the wall, and the gates may be many or few. If the surface is quite level, the circle is the usual form; on broad and long hills, such as abound in some places, it is often oval or elliptical; but quite as often follows the general outline of the hill-top through most of its course. Sometimes a straight or slightly curved line across a ridge gives an angular outline to either earth-work or stockade. Thus there is little or no difference between these except in the ditch, bank and post-holes. Even for stockades, however, a slight trench may first be dug, in which are made the deeper post-holes. A very fine example of this is yet in existence near here; but this depression, which is also slightly edged by the earth thrown out, has sometimes led to the erroneous statement that stockades had ditches. In both kinds of defence, the earth was left undisturbed at the gateways, some movable barrier being provided. The relics found within differ little in characteristic forms, except that those a little before or after A. D. 1600 have more bone and horn articles, and those still later have those which are modern. As far as I know, all agree in this, that no soapstone vessels, flint drills or scrapers, and some other articles, are ever found in them, while brown earthen-ware always occurs. In both cases, also, the defences may have been made after long occupation of the spot, circumstances not requiring this at once. This appears historically, important towns often lying unenclosed until war broke out, when

they were quickly fortified. I took a piece of earthen-ware out of a post-hole, with part of a picket, where it had been for three hundred years. In a circular earth-work I also found burnt earth and pottery in the bank. In some cases this later work caused an irregular outline, formed in including the houses, but in several instances I have observed the traces of lodges outside as well as inside the walls. Earth-works are usually older than stockades, but occasionally there is an overlapping, apparently even in historic times.

The enclosures made by banks of earth, usually with outside ditches, seem plainly intended for defense, while yet insufficient for this by themselves. Without direct proof, therefore, it has been assumed that they were protected by pickets above. This belief has been strengthened by Indian tradition, as preserved in David Cusick's quaint words.* He says: "At first they set fire against several trees, as requires to make a fort, and the stone axes are used to rub off the coals, as to burn quicker; when the tree burns down they put fires to it about three paces apart and burn it down in half a day; the logs are collected to a place where they set up around according to the bigness of the fort, and the earth is heaped on both sides. A fort generally has two gates; one for passage and the other to obtain water." I may add that an early Dutch writer said that a squaw could burn down dead and girdled trees in their fields faster than a good chopper could cut them down.

How reliable this account of David Cusick's may be, or how real a tradition, we can not now say. If actually preserved and handed down, it would point to a recent use of earth-works. In connection with it I may quote from an old journal in a recent book.† It is taken from an account of Mourt's journey with a party from Plymouth, Massachusetts, in 1621. "Not far from hence, in a bottom, we came to a fort built by the deceased king, the manner thus: There were poles, some thirty or forty feet long, stuck in the ground as thick as they could be set, one by another, and with these they enclosed a ring some thirty or forty feet over. A trench, breast high, was digged on each side; one way there was to get to it with a bridge. In the midst of this palisade stood the frame of a house wherein, being dead, he lay buried. About a mile from hence we came to such another, but seated on the top of a hill." It was said by Mr. Roads that traces of these might still be seen in Marblehead. While the dimensions of these "forts," intended to protect only a single house, are very small, they sufficiently show how the larger ones might be made.

Thus far, however, evidence of this nature is very scanty. Prof.

*Sketches of Ancient History of the Six Nations, 1848, p. 22.

†The History and Traditions of Marblehead, by Samuel Roads, Jr., 1881, pp. 2 and 3; Massachusetts Historical Collection, Second Series, Vol. IX, No. 58.

E. N. Horsford reported an apparent case of the kind, near Elmira, N. Y., but his plan suggests European work. It may seem that some traces should be found in banks with upright pickets, as well as in simple stockades, but good authorities have thought otherwise. Their reasons hardly seem to me conclusive, if banks were raised around the posts, unless these were very small. Had the pickets been torn down, the walls would have shown this by the gaps. Had they decayed, holes might have appeared as in the simple stockade, but whatever may be thought of this, the earth-work with upright pickets is still an improved theory.

I think a more probable mode would have been a series of pickets laid against the wall within, and projecting over its top. By laying logs against their base, and by interweaving saplings in the well-known way, these could have been made a strong defense, yet would have left no traces in their decay, the slight holes at their base being filled by the crumbling banks. It should be remembered that the upright post was but a support for the sloping cross timbers which formed the true defence in Iroquois warfare, as will appear farther on. In this connection it may be well to quote from Van der Donck's *New Netherlands** (1636), a few lines on Indian stockades. "First they lay along on the ground large logs of wood, and frequently smaller logs upon the lower logs, which serve for a foundation of the work. Then they place strong oaken palisades in the ground on both sides of the foundation, the upper ends of which cross each other and are joined together. In the upper crossing of the palisades they then place the bodies of trees, which makes the work strong and firm." Substitute a bank of earth for the pile of logs, and we may have a true idea of the defensive earth-work. Much later than this, the Senecas used a log foundation to support their pickets.

Still, with an outside ditch, cross timbers may not have been needed in an earth-work, a single line being easily made secure within. Yet it may be doubted whether the ditch was intended for defence. It was simply a better plan, an economy of space within, to throw up the earth on the outside. At the gateways, always the point of attack, the earth was not removed, and they must have been guarded by a wooden barrier, while stockades had no ditch at all.

Of an earth-work in Oakfield, Genesee County, New York, Mr. Squier said:† "At the sides of the principal gateway leading into the enclosure from the east, according to the statement of an intelligent aged gentleman, who was among the earliest settlers in this region, traces of oaken palisades were found, upon

*Collections of New York Historical Society, New Series, 1841, Vol. I, p. 197.
 †Collections of New York, 1851, p. 65.

excavation, some thirty years ago. They were, of course, almost entirely decayed."

In some cases of earth-works on hills, where there are breaks in the walls which do not seem gateways, it is probable that wooden barriers sufficiently strong were used at these intervals. An instance of this kind occurs at Fort Hill, Auburn, N. Y.

But few instances are certainly known of defensive earth-works of any size built since A. D. 1600. One described in the town of Minden, N. Y., near Fort Plain, by Mr. Squier, would at first seem debatable. He said that European articles were found within, but those who have collected relics there for years have found none. It was a simple bank and ditch across a ridge, which was bounded on two sides by streams with precipitous banks. Judged by the presence of purely European relics, this would be the only prehistoric village in the Mohawk country. But while this is true of the large number of articles I have seen from thence, some of the native relics suggest a knowledge of Europeans. A helmeted head, a bust of a child in a deep niche on a pipe, like the shrine of a saint, are among these. I took from this spot a peculiar flint implement precisely like one I found on a recent village site the next day. To my mind, however, one of the most important links was one of the large grooved stones, which are also found on Onondaga sites, dating from 1620 to 1650.

At the town occupied by the Onondagas in 1654 and subsequently, Mr. J. V. H. Clark's testimony is very definite.* He says: "Many of our early settlers, now living, distinctly recollect the appearance of the enclosure entitled the 'fort,' upon and about which trees had grown to a considerable size. Its earthen walls were then some four or five feet high, having evidently been considerably lessened by the ravages of time. It was circular, and from 300 to 350 feet in diameter. There was but one gateway, and that quite narrow." The hill is so broad that this would be the character of an earth-work there, but I remember no allusion to it by writers in the seventeenth century. It occupied but a small part of this large town. If it is to be accepted—and the testimony is minute and clear—it is one of the latest large New York earth-works on record; but another Seneca work on Fort Hill, near the Conesus outlet, is of the same character and age.

A little east of Indian Hill is Indian Fort, in Onondaga County, usually located on the wrong lot. It is reported to yield modern relics, and might be dated about 1640, or a little earlier. In my short examination, however, I found only articles of Indian origin. A bank and ditch crossed a ridge, the ditch being still visible. I found lodge-sites on both sides of the wall, and the

*Clark's Onondago, Vol. II, p. 256, 1849.

large grooved boulder formed a connecting link with recent stockades not very far off.

In an address before the Chautauqua Historical Society, in September, 1888, Mr. Marcus Sackett, of Silver Creek, N. Y., an old settler, described some earth-works on Cattaraugus Creek. A party of intelligent gentlemen from Irving visited two of these in 1838, making excavations. "They found at this fort quite a number of human bones and a few iron axes," which Mr. Sackett saw. In another earth-work east of the creek was found a vessel of clay, in which were "a few arrow or spear heads, pointed with copper or brass, iron knives and tomahawks."

In Le Jeune's Relation (1637), there is an account of a bank thrown up by some Algonquins between two lines of pickets, when attacked suddenly by their Indian enemies. It was a slight affair, indeed, its importance being in their knowing how it might be made.

The following I give for what it may be worth. It is from the journal of Col. James Montrossor,* an engineer officer in Bradstreet's expedition to Ohio in 1764. The army were encamped on the Sandusky River. "Remarked that the left of our encampment is contiguous to the remains of an old fort, where the Delawares and some of the western Indians took post to shelter themselves against the Iroquois near one hundred years ago. This constituted in the form of a circle, 300 yards in circumference, one half defended by the river and a remarkable hollow way or gully, which covered the left and part of the front of our present encampment." Mere tradition is not proof in such cases, and it was probably one of the early works since then described there. Of all the instances I have given, those among the Onondagas are the most satisfactory. With them, after using the stockade without bank or ditch, they returned to both in the seventeenth century, if we accept testimony which seems reliable. At an earlier day, on both sides of the Seneca River, in Onondaga County, circular earth-works and stockades were both used, without any difference in the relics found. When first known, the Hurons used the stockade exclusively, and explorations show this to have been the rule near Lake Simcoe and the Georgian Bay even earlier. When Wentworth Greenhatgh passed through the Iroquois country in 1677, he found many important villages undefended. In the Mohawk country there were single and double stockades, but none of the former farther west. This points out a new feature coming from European contact, the single stockade being one line of posts, which were now made secure by deeper holes. Before this a double line, at least, was required, in order that they might stand with any firmness, the holes being shallow. The double stockade had

*Collection of New York Historical Society, 1881, p. 296.

two rows, well apart at the base, but crossing and bound together near the top, and these made a strong barrier even when the hold on the soil was but slight. The triple stockade was yet stronger, but required much more labor. A slight trench was made, and holes were dug in this about eighteen inches apart and from fifteen inches to two feet deep. Upright posts were placed in these, and cross timbers from either side braced them firmly at the top. No holes were made for the latter. Yet more ingenious was that Iroquois quadruple palisade which Champlain tried to destroy in 1615, and which he said was superior to any Huron fort. If this stood upon the spot now generally assigned to it, there were no post-holes at all. Setting aside the fanciful picture, it seems to have been a doubling of the double stockade. As in that a double line made a fair support and defense, but exterior cross timbers on either side of this, broadened the base below and the galleries above, the gentle slope within making the latter more accessible. The broader base also kept the enemy farther off, so that Champlain's movable tower was kept a pike's length away.

The peculiar construction of this unique stockade solves some difficulties which have always attended an otherwise good identification of this site. Repeated examination showed me that there were not, and apparently never could have been, post-holes at this place, from the nature of the ground. The plan really required none, the pickets being set on the ground, not in it. This also enabled the builders to extend their defenses easily into the very shallow pond, thus securing all the water they required. I can conceive of no work more ingeniously planned and adapted to the situation. It is proper to quote Champlain's description: "Their village was enclosed with strong quadruple palisades of large timber, thirty feet high, interlocked the one with the other, with an interval of not more than half a foot between them; with galleries in the form of parapets, defended with double pieces of timber, proof against our arquebuses, and on one side they had a pond with a never-failing supply of water, from which proceeded a number of gutters, which they had laid along the intervening space, throwing the water without, and rendered it effectual inside, for the purpose of extinguishing fire." This was only possible by enclosing part of the shallow pond, over the dry bottom of which I walked at my last visit. The galleries were well supplied with stones. The tower was carried within a pike's length of the parapets, and fire was unsuccessfully applied. The enemy "went to the water and discharged it in such abundance that rivers, it may be said, spouted from their gutters, so that the fire was extinguished in less than no time, and they continued to pour arrows on us like hail."

To this may be added Cartier's account of the triple stockade at Hochelaga, now Montreal, in 1534. "The citie of Hochlaga

is round, compassed about with timber, with three courses of rampires, one within another, framed like a sharp spire or pyramid, but laid across above. The middlemost of them is perpendicular. The rampires are framed and fashioned with pieces of timber, layd along very well and cunningly joyned together after their fashion. This enclosure is in height about two rods. It hath but one gate or entrie thereat, which is shut with piles, stakes and barres." Over it, and also in many places of the wall, there is a kind of gallery to run along, and ladders to get up, all full of stones and pebbles for the defence of it." This wall also might have stood without post-holes, and no traces of them have been reported, though they would have been expected, and very probably used.

I have carefully surveyed the stockade apparently first occupied by the Onondagas on entering their historic territory, not far from A. D. 1600, and this has a single line of post-holes in good condition. These are not deep enough to hold the pickets securely, and the cross-timbers must have been used, as in other cases. The fort occupies a narrow and rapidly descending ridge, which terminates in a curving point. At the east end it is 256 feet wide, with a gateway of 8 feet. For 365 feet it gradually contracts, until it is but 90 feet wide. Thence to the west end, where there are two gateways, the average width is 110 feet. The total length is 620 feet, and the post-holes are at intervals of 30 inches from centre to centre. These are quite regularly placed, but are not uniform in size or depth. The gate post-holes, and those at the only exact angle, are largest. The trench is about 12 inches wide, and it was originally 6 inches deep at the most, being now from 2 to 3. In one place I found it had been a foot deep, the post-holes reaching another foot, or a total of two feet from the surface. Out of the bottom of this I took the charred end of a hemlock post, and a fragment of brown earthenware. Another hole reached 21 inches below the surface, but many were of less depth. In some instances, at the west end, the curving trench was slightly interrupted by small limestone bowlders, and the holes were dug on either side of these. There were caches within and without the line. This stockade is remarkable for its narrowness, the ridge not permitting a greater width. Another, a few miles south, occupied some years later, and containing modern articles along with the peculiar earthenware common to both forts, has much the same form, but is larger. In these cases the situation controlled the form.

As late as 1696 the Onondagas used the triple palisade, though they adopted some European suggestions, the French even saying that it was built for them by the English. In 1736 Sir William Johnson built a stockade for the Onondagas on the west side of Onondaga creek, the graded way of which still

remains. This road was of field stone, and nearly midway it had a ditch with sloping sides and very broad. It led from the low land on the creek to the higher terraces on which the block-houses and stockade were built. The palisades were placed close together, four feet in the ground and twelve above.

When they obtained spades and axes, some Indians quickly adopted the European stockade, as in the Esopus war in 1663. One was perfectly square, with one row of palisades, fifteen feet above and three below ground. "These angles were constructed so solid and strong as not to be excelled by Christians."* Some old features they might retain, as in the same war, when a squaw described another fort,† which had three rows of split palisades, with post-holes and covered with bark. It was square, and the third row was eight feet inside of the others.

One early stockade, near Baldwinsville, N. Y., was circular, with a gateway towards a small stream on the north side. North of this stream were lodges. Another was elliptical, but the relics did not materially differ from those in single and double circular earth-works a few miles away.

The quickness with which barricades of considerable strength were made by these early nations is not always realized. When on a tempting spot unprepared, I have made good progress in digging with a sparp stone or stick, much less effective implements than the Indians possessed. Apparently the stone axe did better work than some have thought. The defensive work might be a single barricade, sufficient in primitive warfare, but Champlain has told how readily this was made. The Indians with him on his expedition to Lake Champlain, in 1609, made themselves comfortable where they encamped. Some cut down "large trees with which to barricade their lodges on the shore. They knew so well how to construct these barricades, that five hundred of their enemies would find considerable difficulty in forcing them in less than two hours without considerable loss." Their enemies did as well. When the Iroquois met them at night, and had gone at ashore, "they began to hew down trees with villainous axes, which they sometimes got in war, and others of stone, and fortified themselves very securely."

Another feature of early forts is often forgotten, if, indeed, generally known. This was the leaving of a lookout tree within the walls in New York forts, and probably in others. If this were a living tree, as seems likely, it would render some common estimates of age uncertain. In Wassenær's *Description and First Settlement of New Netherlands, 1621-82*, we are told:‡ "When they wage war against each other, they fortify their tribe or nation with palisades, serving them for a fort, and sally out

*N. Y. Doc. Hist., Vol. IV, p. 73.

†Ibid, pp. 48-49.

‡Ibid, Vol. III, p. 40.

the one against the other. They have a tree in the center, on which they place sentinels to observe the enemy and discharge arrows."

The tendency to angular stockades among the Five Nations, or New York Iroquois, was quite marked at an early day. It appears very distinctly in Champlain's picture of the Iroquois fort attacked by him in 1615. I found it in Onondaga forts of about the same or a little earlier date. A stockade described as square was visited by La Salle in the Seneca country in 1669, twenty miles from Irondequoit Bay, New York. There was a "collection of cabins, surrounded with palisades, twelve or thirteen feet high, bound together at the top and supported at the base by large masses of wood of the height of a man." He thought it a feeble defense.

The facts which are here stated show that both stockades and earth-works were built by the Iroquois family at least, and that the change from the one to the other was most marked towards the close of the sixteenth century, though commencing earlier. In a few cases the earlier practice survived, or was revived, in the early part of the seventeenth century. It was an instance of progression in art, the Indian earth-work requiring less skill than the elaborate and ingenious Iroquois stockade, and the introduction of the white man's implements preventing any relapse into the simpler defenses.

We give a cut of this. See Plate. Although the view illustrating the attack on an Iroquois fort in 1615 is of value, and founded on facts, it will hardly now be considered a sketch made at the time, as some have thought. The number of French engaged, the neat construction of the movable tower, the artistic ramparts and outer palisades, the exact disposition of the lodges, and the lack of true proportion, all show this. At the same time it will be observed that the artist makes those pickets which rise above the outer fence, cross the central lines, as I have suggested might have been the case. This was probably an Oneida town, but it is worthy of note that the Onondagas had an angular stockade, some miles west, at the same time.

Mr. Squier gives a figure and description of a small earth-work in the town of Mentz, Cayuga County, N. Y.,* where, he says, "a quantity of relics, some of comparatively late date, have been found." This is not unlikely, though he probably had to depend on the evidence of others. I examined a very much smaller one of precisely the same outline, and but a few miles off, on Fort Hill, near Savannah. This also has but one gateway, but it is at the small end, and there is a large cache just within. This small fort had abundant earthen-ware, and com-

*Antiquities of New York, 1851, p. 51.



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manded a remarkably fine prospect. There are reasons for thinking it of recent date.

If correctly described, a curious combination was found in the town of Ulysses, Tompkins County, New York.* A large enclosure had a bank on the north and east sides, still visible in 1864, but on the west side were three rows of post-holes and no bank. The work was angular, and the relics of an early type. If any traces remain, so curious a site should have an exact examination, supposing the general description reliable.

It has been sometimes doubted whether eastern earth-works are ever true circles. Generally, as before said, they conform to the surface where the land is uneven, but the only one remaining very near my home, and described by Squier from others as elliptical,† is an exact circle. It is in the town of Granby, Oswego County, enclosing less than acre instead of two, and the east and west gateways may still be seen. Judging from what may be traced in cultivated ground, a neighboring fort was of the same form. The larger, double-walled fort near Baldwinsville, a few miles from these, was also circular, and the Shelby fort, in Orleans County, with its double banks, had the same outline. An interesting chapter on Indian defenses in Squier's *Antiquities of New York* will well repay perusal, showing that similar ideas prevailed widely through the larger part of the United States. I have spoken of a feature mentioned by only one northern writer, which was also found in Louisiana. "In the middle of the fort stands a tree, with the branches lopped off within a short distance of the trunk, and this serves as a watch-tower." Corresponding features and changes were natural, for the Indian was a shrewd and observant warrior. If he saw a defensive improvement which he might easily adopt, he always thought it lawful to learn from his enemies, and thus great changes came about within a very short time. Some were almost completed when Europeans settled in New York and Canada, and others rapidly followed.

I have taken pains to obtain notes of all known Indian villages, hamlets, stockades, mounds and defensive earth works in New York from all sources. Naturally the stockades are very few in number from their recent origin and easy obliteration. Much less than two hundred earth-works for defense have been mentioned by all observers, even including some indefinitely suggested. If we suppose twenty of these were contemporaneous in the whole State, on an average, and that they were each occupied for twenty years, a liberal allowance of time, their period would be about two centuries. Allowing half the number of contemporaneous forts would give four hundred years, and seven centuries is a high antiquity to assign to any New York earth-work.

**Smithsonian Report*, 1864, pp. 381-2.

†*Antiquities of New York*, 1851, p. 30.

Correspondence.

A WEIRD MOURNING SONG OF THE HAIDAS.

Editor American Antiquarian.

During a fourteen-months' stay on the Queen Charlotte islands in the years 1869-70, connected with coast mining, we had to employ a large number of Indians, who, in order to be nearer their work and also to have homes, added house to house, until there was quite a village. In the center of this village stood two large houses, one being a store and trading post, the other dwelling and boarding house for the white people employed on the works, which at the time numbered fifteen. A little to the north of the latter was an Indian house of considerable dimensions. In this house, three or four times every week, all the Indians met for what appeared to be some sort of amusement. They seated themselves in an oval around a fire, which was all the light they had. While thus squatted on the floor, they all together sung, and beat time with sticks on a board laying before each one. After singing and beating a while, one of their number would begin to speak, then all would stop and listen. As soon as the speaker stopped, all would again sing until the speaker, who had been sitting passive, again began to speak. Thus they kept on until one or two o'clock in the morning. One thing I noticed, they always ended with the same song every night. And such a song! Anything so weird in the midnight hours I never before heard in all my life. So weird, so sad and mournful was it, that I never forgot it. When it was sung I could not help shedding tears, let me do my best. After two or three nights' experience, I asked the Indians what they were doing and what they were singing. In answer to my request, I received the following. Before I begin it will be necessary, in order to understand clearly the cause of these meetings, to give a few facts.

Early in the spring of 1868, the smallpox broke out amongst our Indian population. The Haidas, in order to escape the fell destroyer of their race, left to the number of three hundred. They started in twenty-five large canoes, hoping, after a few weeks' sailing at farthest, to reach their island home. But oh, vain hope! In less than two days' sailing they found with dismay that six or seven of their number had the dreaded smallpox and could go no further. Here they anchored in a small harbor

on an island. Here they stayed by their companions until they died, and then left, leaving behind them the bodies wrapped in blankets where they died, and beside them all their belongings. Thus one by one they were left behind, until one boy alone of all that number, reached home. At first they broke up the canoes when there was none left to sail them; afterwards, when there were few to break them, they were left on shore, where their owners lay, rotting in the timber.

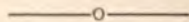
To hold communion with the spirits of their relations who thus fell by the way, my informant said, they met, and to learn what progress they were making in the other life—which they considered to be one of unending progression—and if satisfactory the women, who are the mourners, would wash their faces and leave off their lamentations. When the Haidas mourn the passing away of their relations, they paint their faces black, which so remains for one year. As the year of mourning draws to a close, regular seances are held in one or the other of the houses. Those of their number who are mediumistic would give tests under spirit control. Sometimes a Skaga (who is a good medium) would be brought from his home in a distant village to give them communications from the shady side of life. The Skaga thus brought was always paid handsomely, as the following will show. My informant further said that after ten or twelve days were past a famous Skaga named, I think, Tow-ah-tee, living at Gumshewa, had been sent for to give them who had lost relations in the village, words of comfort from the dark beyond, and that each person had agreed to pay a number of blankets according to their ability. He said that when the Skaga came I had to come also, and see for myself by taking part in the ceremony. The Skaga came and I went to see.

Entering the house I found at least twenty-five people, men, women and children, seated as before mentioned in an oval form, with a small fire at one end and the Skaga at the other, both within its circuit. All were seated on the floor. While the singing and beating were going on, I noticed the Skaga's body making spasmodic movements, which ceased when he began to speak, while all listened without a word or a move. To my surprise, his voice would change every time he spoke—now like a man's, then like a woman's or a young person's. Amongst the number who subscribed to pay the Skaga was a man named Scielass (dirty), who with his wife took part in the sitting, they being anxious to hear from their two sons, nice boys, who both fell by the smallpox. These boys both came that night, and gave their experience. A young woman, a relation to some one in the company, one who had been well known to all present while in the body, came and through the Skaga medium; and through him gave a most excellent discourse. Thus they kept on, the hours passing unheeded until near two o'clock, when all

left for home after singing the same weird song with its mournful numbers. From what I heard that night and what I learned the next morning, the past night's work was highly satisfactory, as was apparent. Next morning all the women appeared in clean clothes and with clean faces. After remaining amongst these people a few days, the Skaga got his fee and left for home.

As I have gone so far from my original subject, I may as well say a few words on what was said by the visitors from the other side through their medium, the Skaga. While on this part of the subject, I shall only give a summary of the whole, instead of taking each one in detail. Some said that when they awoke to consciousness, they were glad to find that, instead of their old bodies all covered with the loathsome smallpox, they not only had clean and beautiful bodies, but were in a beautiful country, where the skies were ever clear and the loveliest of flowers were ever in bloom. All said they were so happy that if they could come back to live again on earth they would not do so. Some of them gave messages for other spirits, who were unable to control the Skaga. Most of them told their relations not to grieve for them any more, because they were not dead, and their grief only rendered them (the spirits) unhappy. Thus they all kept on until morning, giving and receiving messages, which in the estimation of these people were strictly honest. To me it was something new, something I had never seen nor heard of before. After seriously considering the matter, I concluded that what the spirits of the dead, after throwing off their earthly bodies, were able to communicate with their friends and relations still on earth, through a medium, was the matter embraced in this song.

JAMES DEANS.



THE DAKOTAS AND THEIR TRADITIONS.

Editor American Antiquarian:

In reference to the Dakotas and their migrations, I would say that I was informed by my father and the Messrs. Pond that their myths refer to their ancestral villages on the Upper Mississippi, Lake Isanti, and the west end of Lake Superior; to wanderings in regions north of the Great Lakes; to residence on the Great Lake many times farther east than Lake Superior. Their descriptions of the ocean storms, sea beaches, etc., are so accurate that it seems impossible that these myths, gathered more than fifty years ago, could possibly have originated otherwise than when they resided there. But they had no traditions as to residence south of Lake Superior. Father was informed by half breeds, who had resided among the Iowas, that the Iowas had traditions that they came from the Ohio Valley, but without the

myths themselves to be analyzed little importance could be attached to such traditions. With the exception of the Crows, and perhaps the Osages and Winnebagos, the tribes allied to the Dakotas in language were, when first visited by the whites, chiefly dependent on agriculture for their support. It was my father's opinion that these tribes, the Iowas, Omahas, and Ponkas; the Osages, Kansas, Kaws and Qunpas, the Mandans and Winnebagos, were the Ohio mound-builders, or at least one class of them.

According to Dakota traditions, the Iowas and Ponkas built much larger mounds than the Dakotas. I have myself heard several Dakotas say that the Iowas ("Syakhibee" in the Santee dialect) built the round mound thirty feet high, perhaps partly natural, on the brow of the bluff a mile east of my father's mission station, and quite an extensive earth-work, probably originally ten feet from the bottom of the ditch to the top of the wall between this mound and the mission station. This earth-work enclosed a spring well towards the top of the bluff, and overlooked a rich bottom, in which was a large space partly covered with large trees, that seemed to be covered with old corn-hills. The Indians stated this bottom was used as a corn-field by the Iowas and also another piece afterwards planted by themselves. They represented that the Iowas left this region on account of a war between the Dakotas and Iowas, one Indian supposing this happened about ten generations ago, another estimating the time at only five generations.

I noticed the remains of some circular houses banked up with earth within the enclosure, but these remains and a large share of the earth-work were many years ago destroyed by plowing. I never examined fully the large mound, and could not do so on account of intrusive burials of the Dakotas in the top. A small excavation in one side proved that it was to a considerable extent artificial, but seemed to indicate that it was partly natural. It commanded an extensive view. The Dakotas in winter suspended their dead in trees or on scaffolds, and buried the bones only when the flesh had rotted off. In summer they usually buried at once, provided they could obtain a coffin of boards. The heathens always placed offerings with the body, whether on the scaffold, in the tree, or in the coffin; but I think never placed offerings with buried bones, as they supposed the dead by this time domiciled in the new world, and that the spirit, which long lingered about the body, took its final departure into some other human being or some animal when the decay of the flesh was complete.

A. W. WILLIAMSON.

Rock Island, Ill., October 25, 1890.

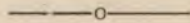
Editorial.

OUR NEXT VOLUME.

With this number, THE AMERICAN ANTIQUARIAN begins its thirteenth year. The prospects for the future are very favorable. The standing of the journal is secure, and it is now recognized as authority in all parts of the world.

We have an excellent corps of associate editors. Dr. D. G. Brinton and Mr. A. S. Gatschet, who have been so long associated with us, will continue to have charge of different departments. Besides these, we are happy to introduce Dr. Frederick Starr, of the Central Park Museum of New York City, and Mr. Barr Ferree, of the Leonard Scott Company, who is a lecturer in the University of Pennsylvania, and Mr. C. Staniland Wake, the eminent English archæologist, who is now a resident of Chicago. These gentlemen will have charge of separate departments, and will add much to the variety and interest of the magazine.

Among our contributors, Mr. James Deans will write of the totem posts and native myths of the northwest coast; Gen. Gates P. Thruston upon the stone graves and the southern races; Mr. G. E. Laidlow on the antiquities of Ontario; Prof. A. W. Williamson upon the Dakotas; Dr. Stephen Bowers of California tribes and relics; Mr. A. E. Douglass on the antiquities of Florida. Mr. Dominick Daly will furnish more information on St. Brandon and St. Cuthbert as pre-Columbian visitors. A collection of myths by the late S. T. Rand, D. D., of Nova Scotia, will be drawn upon from time to time. Besides these we have correspondents in all parts of the country, who will furnish information on archæological relics and on all new finds. This department will be very valuable. We think that the magazine will sustain and advance its reputation, and we hope that we shall secure many new subscribers. We ask our subscribers to assist us in this work. A recommendation from them will be of more benefit to us than any amount of advertising. We ask this as a special favor that our subscribers recommend THE ANTIQUARIAN to their friends.



AN IMPORTANT FIND.

The discovery of a musical instrument or the sounding-board of an instrument, with hieroglyphics upon it, may interest our readers. This discovery was made near Mendon, Illinois, by a young man who was digging a post-hole upon his farm, a farm which his family had occupied since 1840. This find was made near a spring and not very far from the site of an old log house in which a number of families had dwelt. The Mormon temple

at Nauvoo was some thirty miles north, and the Mormons occasionally spread as far as this place. The find consisted of a copper plate, about 14 inches long and 7 wide, probably the sounding-board, with ten holes at one end and ten copper pegs in the holes. A strip of copper, probably used as the bridge, was also found.

ARCHÆOLOGICAL NOTES.

THE DUK-DUK CEREMONY.—Secret organizations into which young men are initiated prevail among nearly all uncivilized races—the Madas among the Chippewas, the Wakau among the Dakotas. Among the South Sea islands, especially in Melanesia, a secret order exists which is quite widespread. The Duk-duk is a ceremony which is practised at the initiation. There are signs which are understood by the people on far distant islands, who speak a distinct tongue. How far this order extends is unknown, but the ceremony of initiation is now well understood. See the *Popular Science Monthly* for December, 1890.

LABRETS.—Mr. George F. Kunz has described certain pipes as used in Peru, along with the labrets which were worn by the Botacudo Indians. These pipes had wide, thin stems, and were placed about the labrat. The typical mound-builders' pipe has a wide, thin stem. Did the mound-builders use labrets? See the report of the Academy of Science, New York, March, 1890.

FLUTES AMONG THE EGYPTIANS.—The collection of flutes in the British Museum shows that there were seven kinds among the Egyptians. Some of these have three, some four holes; some have an open mouth and some a reed mouth-piece. Some show that the bag-pipe drone was common. The Egyptians played in the pintonic scale, or Scotch scale, as well as in the diatonic scale. Scholars claim that Greece borrowed its arts from Egypt. The study of musical instruments confirm this theory.

CARNAC.—The theory has been held by certain English archæologists that the alignments of Carnac were orientated in such a way that the rising sun would strike across a menhir in the alignment and would reach the center of the cromlech in Ménec very much as it is supposed to do in the case of Stone Henge. A writer in *Bulletin de la Société d'Anthropologie* of Paris ridicules this idea, and says that the motions of the sun are such as to render it impossible to verify this, even if it had occurred when the standing stones were erected. The shadow of the Friar's Heel is supposed to strike the center of the circle at Stone Henge on the day of the summer solstice. This fact has given rise to the theory that the builders of Stone Henge were acquainted with astronomy, in its elements, at least—a theory which would naturally lead to the confirmation of the Druidic origin of Stone Henge. It would be an interesting fact if we

should find any such arrangement of monuments in this count . . . Sun-worship prevailed here in prehistoric times. Was there any astronomical gnomes connected with the mounds?

THE CAHOKIA TABLET.—We give with this number a cut of the Cahokia tablet, concerning which we spoke in our last. We are not sure that this cut perfectly represents all the figures on the tablet, which is much weather-worn, and the figures are not distinct enough for us to trace the lines upon it. Still we think it fairly represents the design. There are several points which we make in connection with the tablet. First, in reference to the faces; these are exactly such faces as are common among the



Cahokia Tablet.

sun-worshippers of the south. Second, the figures correspond to stone idols and terra cotta images found elsewhere, the retreating forehead and open mouth having become familiar to us by means of the pipes and incense burners found in the southern mounds. Third, the faces on the tablet are such as to correspond to the elongated skulls found at Cahokia and among the southern mounds. These flattened skulls are peculiar. They differ entirely from the round skulls, which are common at Cahokia and in the northern States—Ohio, Illinois and Wisconsin—but which are not found in the Southern States. Two distinct races evidently inhabited this spot at different times. Fourth, the chief point which we make is in reference to the horse-shoe figure seen issuing from the mound. A photograph might reveal the lines in such a way that our readers would be better satisfied, but we throw it out as a theory that this horse-shoe near the mouth of each figure is a symbol of the soul, and that

we have in it the same symbolism common in the far east, the horse-shoe being considered the emblem of the soul or the spirit of life in India, and corresponds to the Nile key in Egypt.

ANTIQUITY OF MAN.—It depends upon the side which one takes on this question whether his facts will be interpreted in favor or against the extreme antiquity of man. Dr. Huxley treats of the Aryan question and prehistoric man, and from a biological stand point, and finds traces of human existence to be very ancient. Dr. John Evans, on the contrary, in discussing the question before the British Association, takes the ground that the case is not proved. The argument of Dr. Evans is as follows: There are three great divisions of the tertiary period—eocene, miocene



Cahokia Tablet—Reverse.

and pliocene. Only one survivor of the pliocene has been discovered among the vertebrates, namely, the hippopotamus. The members of the vertebrates which appeared in the eocene age have all changed; not one survivor. If this is so, it does not seem reasonable that man, who is the highest of all the vertebrates, should have come down from either the eocene or miocene. All investigators should look carefully to the evidence that would carry us back of the quaternary period.

THE EVOLUTION OF MAN.—Dr. Frank Baker, professor in the medical college at Georgetown, D. C., took for his subject at the American Association at Indianapolis, "The Ascent of Man." The theory was that there are elements or peculiarities in the bones and muscles of man which, by reason of his changed condition from brute to man, from quadruped to biped, were not used, and have largely disappeared, and nothing is now found

but the vestiges. This is the old argument of the Darwinians. It is a very small basis for an argument, which is furnished by the absence of an element. Of course, the opposite, the improvement or development of an organ, will be granted. But this does not prove that man was ever a quadruped, or that man once went on all fours and had a tail, but when became man he had no use for a tail and lost it.

BRAIN STRUCTURE.—The discussion seemed to continue when the sub-paper on "The Brains of a Man and a Chimpanzee," were compared by Prof. Bert G. Wilder. "It would be hardly safe to affirm that one organism is the habitation of an immortal soul and the other one of the beasts that perish." This argument would be an offset to the other. But the next paper, by Mr. J. Muller, "The Peculiar Effects of One-sided Occupation," presents another side. Prof. Cope says, "Deep seated anatomical characters are not even altered by occupations." "A man with a flat shin-bone is nearer the ape than a man with a triangular shin-bone." "The shin-bone has characters which are not soon eradicated." Here we have the two sides again.

PREGLACIAL MAN.—*The American Geologist* has an article by Warren Upham on "The Cause of the Glacial Period." The following remarks upon the recent date of the glacial period are pertinent: "Such measurements of the gorge and falls of St. Anthony show that the length of the post-glacial or recent epoch to have been about 8,000 years. From surveys of Niagara Falls Mr. C. K. Gilbert thinks it to be 7,000 years, more or less. From the rates of wave cutting along the sides of Lake Michigan, Dr. E. Andrews estimates it at not less than 7,500 years. Prof. Wright obtains a similar result from the rate of filling of kettle holes among the gravel knolls and ridges called kames. Prof. B. K. Emerson, from the rate of deposition of modified drift in the Connecticut Valley, thinks that the time can not exceed 10,000 years. A similar estimate is formed from the study of the Lakes Bonneville and La Hontan. The last great rise was contemporaneous with the last extension of ice sheets. Prof. James Geikie maintains that man in Europe made neolithic implements before the recession of the ice sheet from Scotland, Denmark and the Scandinavian peninsula, and Prestwich suggests that the dawn of civilization in Egypt may have been coeval with the glaciation of northwestern Europe, and H. D. Mackintosh cites the boulders in Wales and Yorkshire as proof that a period of not more than 6,000 years has elapsed. Dr. Robert Bell refers to the preservation of the glacial striation and polishing. The striæ are as fresh looking as if the ice had left them only yesterday. According to the astronomic theory which Croll and James Geikie have advocated, the glacial period was from 240,000 to 80,000 years ago, but it is wholly untenable in view of the geologic evidence.

THE AMERICAN FOLK-LORE SOCIETY.

BY FREDERICK STARR.

The second annual meeting of this society was held in New York City, at Columbia College, on November 28-29. The sessions were well attended by both members and townspeople. Papers of unusual value were read. A full list was announced. Of them the following were read only by title: "Hiawatha," by Rev. W. M. Beauchamp; "The Worship of Astarte in America," and "The Ethnic Side of Folk-lore," by Dr. D. G. Brinton; "West African Folk-lore," by the Rev. Heli Chetelein. Of the others, some are of special interest to our readers.

Dr. Boas' paper, "Dissemination of Tales Among the Natives of North America," clearly defined the principles that should control in study of tales. The tales should be carefully analyzed and reduced to their elements. These are then comparable. Two tales may be similar—either because they are simple nature myths, easily originating independently, or because they have been carried from one home by transmission. The latter class only are of value in tracing tribe relationships or contacts. Citing certain examples, Dr. Boas showed the geographical distribution to be of great importance. We may find a tale continuously over a given area among kindred or neighboring tribes. The appearance of a tale outside its principal area may tell its own story clearly. In other cases, a tale may be found in two widely separated localities, and though we know it is one story, we may be unable to tell how it has gained its present distribution.

Mr. Chamberlain's paper on the "Naniboju Legend" is a concrete illustration of such study. The Naniboju legend was traced in locally variant forms over a large area and through many tribes. The area, however, is mainly interior and around the Great Lakes, and the legend is characteristically Algonkin.

Rev. J. Owen Dorsey's "Siouan Cults" was a profound study, and does not lend itself easily to synopsis. It was illustrated by a dozen charts, showing the relations of the gentes to the elements and the symbolism of colors. In this connection, Miss Fletcher called attention to a good illustration of the practical value of anthropological study and of the reality of such relationships as Mr. Dorsey had described. In her work of distributing lands in severalty to the Winnebagos, Miss Fletcher found unexpected difficulty and slowness. Finally she saw that the opposition came from the Bears. Remembering the connection of this gens to *the earth*, Miss Fletcher made a special effort to gain them to the project. All was changed and the work succeeded.

Miss Fletcher also made some remarks concerning the "Mes-

siah craze." She has kept track of the growth of this excitement for some seven or eight years back, and is inclined to trace it to some Indian who had been impressed by Christian teaching. The ideas change a good deal, but at times they have assumed the form that Christ, rejected and slain by the whites, is coming now to his red children. This view and others have taken deep hold, and the final outcome looked for is the discomfiture of the whites and the restoration of the Indian. In the discussion that followed, it was suggested that such a craze is no new thing, but often occurs, especially among a subjected people.

Prof. Mason held that folk-lore should be studied by the regular scientific method of the naturalist. Only so will it come to occupy the place it deserves among the sciences. Valuable suggestions were made relative to the proper collection, tabulation and classification of material.

Mr. Wilson's paper on "The Amulet Collection of Prof. Belluci, and How it Came to be Made," elicited discussion of an interesting character. Prof. Belluci, it seems, noticed on a cabman's whip a bit of fur, tied "for luck". His attention turned in that direction, he began to collect and gathered great quantities of amulets of all kinds. Why is it that no one has yet gathered a series from the Afro-Americans? The hint is suggestive.

Dr. Starr, in his paper on "The Folk-lore of Stone Tools," urged the gathering of American material upon this subject. A considerable amount of European and Asiatic lore of celts, stone axes and arrow-heads is already collected. Here we have little. Such material is of three kinds: (*a*) Notions of Indians as to origin of stone tools; (*b*) belief in their power; (*c*) notions regarding stone tools introduced by and surviving among our white immigrants.

Dr. J. Walter Fewkes spoke most interestingly of certain dances recently seen at Zuni. He believes that frequently in these dances are depicted in dramatic form important events in the tribal history. Dances have not been particularly studied with this idea in view, and it is important that future investigations should be made.

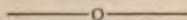
Incidentally much of interest arose in the discussions. Mr. Conway spoke of the mandrake and the middle age beliefs regarding it. He told how it grew, its value, and the way in which it must be pulled by a dog. A quaint old book was shown with a picture of the dog pulling one. How can we compare this belief of Europeans with the curious notion of the "man root" found by Mr. Dorsey and Miss Fletcher among the Omahas?

Among Mr. Kunz's beautiful specimens were some American rarities; a Mexican amber disk carved with calendar stone designs; a magnificent great carved axe of green jade; two beautiful Mexican labrets, one of jade, one of amethyst, both of the

hat-shaped pattern. Mr. Kunz also showed an interesting old book in Latin—a thesis of a German student upon the Botocudos and labretifying. It contained some charming and quite forgotten or overlooked pictures of lip and ear ornaments then in use.

Dr. Bolton referred to the Hawaiian game of ulumika, played with stones, much like the "chunky" stones of the Southern States. The gentleman showed specimens of stones used. The material of these is various, and often differs from any of the known stones of the island. Dr. Starr showed specimens of chunky stones for comparison with the ulumika stones.

The meetings were of unusually social and pleasant character. The local committee did its best in the arrangements made. Prof. Otis T. Mason was elected president for the coming year, and the third annual meeting will be held in Washington, D. C.



BOOK REVIEWS.

History of the Girtys. Being a concise account of the Girty brothers, Thomas, Simon, James and George. With a recital of the principal events during these wars, drawn from authentic sources, largely original. By Consul Willshire Butterfield. Cincinnati: Robert Clarke & Co. 1890.

The preface of this book begins with the sentence, "It adds much to the pleasure of an author in writing biographies of persons, to be in sympathy with them, but this occasionally results in unmerited praise. On the other hand, where the writer pursues his self-imposed labor with a feeling of antagonism, unjust detraction may ensue." It would seem as if the effort of the author was to avoid detraction. He does not quite make a hero of Simon Girty, but he seems to deny what history has always shown, that the Girtys were miserable renegades, and that they are not worthy of honor in these days. Simon Kenton was a different man. He lived at the same time, and was a captive among the Indians, but he was always loyal to the government and never allowed himself to be a tool of the British. Simon Girty found Kenton at one time in the hands of the Indians, with his face blackened, just ready to be cruelly sacrificed. In the impulse of the moment he rushed up to the captive, threw his arms around him, and cried like a child. It was a spasmodic feeling of compassion. Girty's remorse for what he had done against the borderers gradually wore off, and he soon became very vindictive in his feeling. Simon Girty was "by far the most prominent and influential leader among the Ohio Indians during the revolutionary war." It matters not whether he "was dreaming of still greater military achievements when the war closed or not," he was responsible for a great deal of mischief during the war.

At the close of the war he married Katherine Mallotte, a young lady about half as old as himself, and reputed at that time to have been the beauty of Detroit. "She turned away from her red-coated and more civilized admirers of the British post and accepted their strange and notorious white-savage confederate." This is a quotation from the *Magazine of American History* apparently endorsed by the author. We doubt whether it con-

veys the correct impression. Katherine Mallotte had been a victim of border tragedy and had been a prisoner among the Indians, but was never a suitable companion for a British officer. Their residence after marriage was in Canada, below Amherstburg. Simon Kenton lived in Ohio, and was honored. Simon Girty lived in Canada and was a renegade, and should be so represented. "He continued to visit Detroit, declared he would make that post a place of resort, and defied the power of the United States. When the troops took possession of Detroit, he was full of braggadocio," but he soon became so much alarmed that he plunged his horse into the river at the risk of drowning, and swam to the Canadian side, "pouring out a volley of malediction as he rode up the opposite bank, mingled with all the diabolical oaths his imagination could coin." Girty "shared the whisky and venison of his Indian friends," the Mohawks, until the close of the war of 1815, but his drinking caused his wife to leave him. He was totally blind, was crippled, and rode to his hunting grounds "in great bodily pain." He seemed to have some penitence just before the close of his life. He listened to the words of his wife, who was again living with him, and explained to him how he might still obtain pardon for his sins, and prayed with him earnestly at his bedside. Still, notwithstanding this, he was a bad man. Girty's delight in seeing the torturing of a dying man, an old acquaintance, Col. Crawford, who was suffering the most frightful agonies at the hands of the Indians, can never be forgiven him. He was a white man, but was "an Indian in all but the color of his skin," even if the author says "he was by no means" such a man. The influence of captivity and savage training is not an excuse. He will be contemned and abhorred by American citizens who read history. The facts are brought out so clearly by this book that the feeling is increased, notwithstanding the excessive care of the author to be "just and fair" toward the man about whom he is writing. The volume is one of the best of the Pioneer Series which Robert Clarke has published and in some respects one of the best of Mr. Butterfield's books. The reader will probably take it up and follow it through with interest, but if he receives the same impressions which we have in reading it, he will abhor the name and character of all the Girtys.

Were the Osages Mound-Builders? By Dr. J. F. Snyder. Reprint from the Smithsonian Report for 1888.

The object of this little pamphlet is to refute the story of an Osage chief that a distinguished warrior was buried by the Osages and a mound raised over his remains. "The mound was enlarged at intervals. The accumulation of earth went on for a long period, until it reached its present height, when they dressed it off at the top to its conical form." The old chief believed that all the mounds had a similar origin. Dr. Snyder maintains that the Osages built no mounds, at least they built none on the Osage River, and he quotes Prof. Broadhead, Robert I. Holcombe and others. He refers to a natural hill or bluff called Blue mound, in which the chief Old White Hair was buried, and which was called the "crying mound," because the Osages were accustomed to resort to it and mourn over the merits and virtues of its silent tenant. It was a mere grave,—not an artificial mound.

This correction made by Dr. Snyder is only negative evidence. It does not, however, prove anything as to the customs which prevailed among the Indians of building mounds. The Indians did build mounds. Some of

them built small mounds and some of them larger ones. What is more, successive tribes added to the height of the mounds which were already built, placing their dead in layers, each tribe having its own mode of burial, some of them, like the Omahas, having first placed the bodies on platforms and afterwards made bone burials; others, like the Foxes and Iowas, and possibly the Illinois Indians, buried in the mounds with the body preserved entire. In reference to the Mound-builders proper, cremation was the common custom, at least among the Mound-builders of the Ohio Valley and the middle districts of the Mississippi Valley. This people is supposed to have been serpent-worshippers. The burial customs of the sun-worshippers are unknown. They may have practiced bone burial. Some of them probably used the stone graves as burial places. The hunter tribes and the nomadic people who roamed over the prairies may have built some of the mounds which are found in the prairie region, but the village people who made permanent settlements in the Ohio Valley were quite different from these wild hunters. There is a point which we make in connection with this pamphlet: It is not safe to reason from a single instance to a general conclusion, on this or any other subject. If persons refuse to accept any truth which lies beyond their own observation, they are not scientific. Whatever the subject may be, whether it is mound-building or any other subject, the other side should be candidly considered and the evidence weighed. That is the attitude of the scientific spirit. There is no bigotry or prejudice in it against any form of truth.

The Golden Bough. A Study in Comparative Religion. By J. G. Frazer M. A., Fellow of Trinity College, Cambridge. In two volumes. London: Macmillan & Co. 1890.

The title of this book is taken from a painting by Turner, the great artist. This painting represents a priest guarding a tree in a sacred grove. It is the tree of the Golden Bough. The golden bough is plucked, the priest is slain, and the one who slays him becomes his successor as guardian of the tree. The painting perpetuates a myth. The object of the book, as of the painting, is to represent the various myths and superstitions which have prevailed and perpetuated themselves in modern customs. The author in his preface says, that he has been preparing a general work on primitive superstition and religion, but that this book is only a detached portion on a specific subject. The subject really is the animism which has prevailed among uncivilized and primitive people, but which has embodied itself in superstitions about the tree, the corn, the sun, the harvest, the animals, the soul, the human form, etc. The material which the author uses to illustrate his subject is drawn from all sources—from ancient mythology, from modern customs, from Egypt and America, from the civilized and uncivilized, from peasants and from palaces, and must have required an immense amount of study and very extensive reading to gather in.

The customs which have reference to the processes of nature, such as the setting-up of the May-pole, rolling the wheel, which was symbolic of the sun, through the harvest fields, the lighting of bon-fires at Easter eve, the keeping up of midsummer fires, burning of effigies and torches at fire festivals, and many other customs of the kind, are mentioned. The worship of the mistletoe is also compared to the plucking of the golden bough. The subject of totems is also brought in as a contribution from the uncivilized races. The killing of the god in Mexico, or rather of the youth who rep-

resents the red god Tezcatlipoca is referred to. The worship of the snake in the East Indies, the slaughtering of bears among the Ostiaks and among the Ainu of Japan, the sacrifice of the turtle among the Zunis, the eating of animals to get their qualities, and other similar customs are described as having a bearing upon this subject. Death and resurrection seem to be in reality the basis of thought in many of these customs, a resurrection of nature, and by natural means, rather than of the soul by supernatural means, one of the truths taught by natural religion.

The author has carefully avoided all controverted points, and given only the facts which bear upon this general subject. The plucking of the tree of the golden bough and the sacrifice of the priest who guarded it might at first be interpreted as a variation of the old myth or tradition contained in Genesis and perpetuated in the various forms of tree and serpent worship, but this is not the subject. There is, to be sure, an allusion to the Egyptian myth of Osiris, who was slain and hidden in the tree and brought to life again, but even this myth is not pressed at all, for the author only touches upon it and passes on to others.

To one who is studying the subject of nature-worship, especially as it is perpetuated in modern customs, this book would be a valuable repository of learning, for it would save him a vast amount of labor, and will be equal to a large library in itself. To one who is looking for the spread of prehistoric customs and myths, and who is seeking to trace them back to their source, the book will also be suggestive and helpful, but if any one thinks to go back to the Scriptures and to trace the customs and beliefs which are recorded there to any system of nature-worship, he will find no essential aid to his effort in this work. It is purely modern in its scope, and lays all these problems aside and does not undertake to grapple with them.

Still, enough has been written upon this subject to call forth an answer. The writings of Furlong, Inman, and others are full of perversions of the truth, those of Inman being especially unfair. Perhaps the positive side the author has presented when he traces these customs and traditions, not to phallic worship, but to a purer and more natural and widespread animism will be an aid to the reader who wants to answer the arguments of those writers, and who is seeking for facts to offset the theories which are presented by them. In this direction the book will be of great service to the reading public. It is an antidote to the poison which comes from such books as have been written. There is an elevated tone in the thought which is unusual, and which, considering the number of books which are written with so pernicious a tendency, might be said to be unexpected. The librarian will not need to hide this book in a drawer, nor keep it among the reference books, for it is suitable for any reader and is safe to commend to the public as a valuable contribution to folk-lore and primitive customs.

Journal of the Transactions of the Victoria Institute. Vols. XXIII and XXIV. Nos. 89 to 94.

The papers in these two volumes are, many of them, very interesting to ethnologists, as the following titles will indicate: "The Science of Language and of Ethnology, with General Reference to the Language and Customs of the People of Hunza." "Notes on the Ethnology and Ancient Chronology of China" by Surgeon-General C. A. Gordon, (No 91). "The Dawn of Metallurgy," by the Rev. J. Mogens Mello, with remarks by the Rev. A. H. Sayce and Major C. R. Conder, (No. 94). "On the Canaanites," by Major C. R. Conder, (No. 94). Besides these, there are articles upon "Excavations at Bubastis," by Edouard Naville; "On Coral Islands and Savage Myths," by H. B. Guppy; on "The Factors of Evolution in Language," by Joseph John Murphy; also on "Instinct and Reason," by Cuthbert Colinwood; "Colors in Nature," by the Rev. F. A. Walker, D. D.; "Modern Science and Natural Religion," by the Rev. C. Godfrey Ashwin; on "Cuts of Bone, Evidence of Man's Existence in Remote Ages" by Prof. T. M. Hughes; on "Mystical Buddhism," by Sir Monnier Monnier-Williams; on "Cuneiform Inscriptions of Telemarna," by the Rev. A. H. Sayce. All of these are in defence and confirmatory of revelation, and are very learned articles. The one on Metallurgy will interest our readers, as it brings out new and important facts.

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SOME PRINCIPLES OF EVIDENCE RELATING TO
THE ANTIQUITY OF MAN.*

BY W. J. MCGEE.

During the last decade a large number of human relics have been found in American deposits of known geologic antiquity. The discoveries by Abbott in the Trenton gravel are classic; the discoveries by Miss Babbitt in the Mississippi terraces are almost equally well known; and there are half a dozen other discoveries which have not only convinced archæologists and geologists of the great antiquity of man in America, but have tentatively fixed the period of his birth. The period thus fixed is the later part of the later of the two great ice invasions of the pleistocene.

These more important discoveries of the decade have stimulated research and thus begotten new discoveries; and every year witnesses the record of additional evidence of human antiquity on the western hemisphere. But this evidence is not of like value; much is inherently defective—so defective that it is necessarily rejected in judicial summation; a much smaller portion is apparently complete at the first blush, and carries conviction to some, yet when carefully scrutinized is found so far defective at some point that it can not be accepted by the conservative student; and a relatively small part of the whole is inherently complete and apparently decisive. Now the minds of men are variously constituted; what is decisive evidence for one is indecisive to another, and but a suggestion to a third; and thus it has come about that scarce two men are exactly agreed as to the purport and validity of the voluminous testimony con-

*Read before Section H, American Association for the Advancement of Science, Toronto meeting.

cerning the antiquity of man in America. So, in view of the recent activity in archæologic research, and in view of the diversity of opinion concerning the antiquity of man, an examination of the principles of scientific evidence as applied to the discussion of this subject would seem timely; and it is not inappropriate that this examination should be undertaken by a geologist, since the whole question pertains to geology as closely as to anthropology.

The leading principles may be stated and discussed in a number of simple propositions, some of which pertain specifically to the sciences of anthropology and geology, while others are more general and pertain to the entire body of science.

The foremost among the specific propositions are the following: It is a fair presumption that every artificial object found on the surface of the land or on the bottoms of rivers, lakes, bays and seas is modern. The agencies of geologic change are in constant operation; the processes of weathering, of transportation and of corrasion are constantly at work upon the land surface, and all objects on or near it are quickly destroyed or transported; either one or both alternately of the never-ceasing processes of degradation and deposition are constantly at work in rivers, lakes, bays and seas, and all submerged objects are quickly transported or buried; and the rate of progress of these processes ever at work upon land and in water is dependent upon a greater variety of conditions and is so variable that no standard for its measurement ever has been or ever can be devised. Some portions of the land surface and some portions of the sea bottom are older than others, and some are indeed exceedingly old; but even when their age is determined the determination affords no means of measuring the antiquity, either relative or absolute, of artificial objects fortuitously distributed over them. Moreover the earth now teems with a population far more numerous than it could have supported before the days of human control of the natural forces and before the days of written records; these modern men represent every stage of culture through which their kind passed in the long struggle for supremacy over all other living things; the objects of their multifarious arts are scattered over broad plains, fertile valleys, swelling hills and rugged mountain ranges, and even over the bottoms of rivers, lakes, bays and seas in numbers infinitely exceeding those of all the prehistoric races combined. Some implements, weapons and utensils found upon the surface are undoubtedly ancient; but in view of the diverse stages of culture of the modern period there is no means of proving by inherent evidence that any given stage of prehistoric culture is of any given antiquity. So far as the inherent evidence of the object in its association is concerned, there are no means of demonstrating great antiquity for any surface-found relic. Again the condition of the exterior of the object, whether oxidized,

decayed, or incrustated, affords no criterion of antiquity beyond a generation or two; for the processes of oxidation, decay and incrustation depend upon a great variety of conditions, the rates are exceeding variable, and no reliable standard for the measurement of antiquity from superficial alteration of objects ever has been or ever can be devised. Some superficially oxidized or incrustated objects are indeed ancient, but some of the newest objects are also oxidized or incrustated, while some of the oldest are free from any such alteration.

It is a fair presumption that any object found in a rock shelter or above a stalagmitic floor in a limestone cavern is modern: Most rock shelters represent soft strata overlain by hard ledges; yet, whether this is true or not, they are commonly produced by a diversion in the course of a neighboring stream or storm-filled runnel in such manner that the cliff is sapped and the softer stratum exposed to the agents of erosion; and even when the shelter is subsequently refilled by water-borne *detritus* or subaerial talus, the filling is commonly but the result of a slight alteration in the course of stream or runnel such as takes place in every decade, if not in every year, of modern time. The enormous precipices walling in the gorge of the Niagara, the canon walls of the Mississippi between St. Anthony's Falls and Fort Snelling, the cliffs confining the Genesee below its falls at Rochester, and the precipices forming Watkins' Glen, alike illustrate and measure modern erosion, effected since the geologic record of past time was closed with the latest episode of the pleistocene. Along most of the waterways of the land there are lines of cliffs and precipices which in like manner represent post-pleistocene erosion; and when rock shelters occur within these cliffs they are but Lilliputian crannies in Brobdignagian crags, and commonly represent only cubic feet or yards of erosion, while the cliffs themselves represent cubic furlongs or miles. To the geologist who deals even with the vast eons of tertiary time, and to whom the cataract is evanescent and the lake but a fleeting shadow upon the vast record of the past, the rock shelter is the thing of an hour or of a moment only. Most limestone caverns are produced directly by a wide reaching and ever active process of rock solution; the waters conveyed to the earth's surface by the rain-drop and snow flake attack and dissolve nearly all rocks, and particularly those of calcareous composition; when the waters are charged with the acids liberated by growing and decaying vegetation, they attack the rocks with still greater energy; and so the waters born of the storm and armed with the humus acids penetrate and permeate the strata of the earth and, in limestone terranes, form subterranean channels, which sometimes grow into great caverns occupied by veritable rivers. The process of cavern formation is in rapid operation to-day, and in certain localities in western New York, in Wisconsin, in Iowa, and elsewhere, in which the

limestone strata are imperfectly protected by glacial drift, many caverns with their attendant sinks have been formed since the last episode of the pleistocene. The solution and transportation of rock strata by the action of subterranean waters is one of the minor processes of that ever-acting degradation by which mountains are cut down, plains lowered, valleys deepened, and continents gradually carried into the sea; but the operation of this minor process is so slow in comparison with the major one operating on the land-surface that surface degradation quickly overtakes subterranean degradation, first exposing and then obliterating the subterranean channels, so that the cavern like the cataract is evanescent. Moreover, observation in many parts of the world has shown that the animal and vegetal relics found in caverns above the stalagmitic floor are generally modern, and frequently represent the period of civilized industries and domesticated animals. It is true that the stalagmitic floor found in large numbers of caverns on both sides of the Atlantic, commonly resting upon a characteristic red earth which is sometimes charged with human relics and the remains of an extinct fauna, appears to stand for a period of transition from exceptionally rapid to exceptionally slow rock solution and cavern formation; and by ascribing the transition to climatal vicissitudes, and by accepting the direct testimony of the Fauna of the cave earth as well; the transition period may be provisionally correlated with the later ice invasion of the pleistocene; yet the stalagmitic floor, like glacial drift of the north, and like the various correlative deposits of lower latitudes, only demarks the geologic past from the present and fixes the earlier limit of that period to which students apply the term "modern."

It is a fair presumption that any stone object of doubtful origin is natural. In transportation by rivers, pebbles are worn rounded and polished, and the wear, rounding and polish may be undistinguishable from the product of art; in transportation by waves, pebbles are worn into distinctive shapes and polished in a manner suggesting art; in transportation of glaciers, pebbles are ground and polished in a great variety of ways, only a part of which can be said to be known to man; in all modes of transportation, pebbles and large masses of stone are subjected to impact against one another and against other substances in such a manner as to produce every type of fracture known to art; under natural conditions of cleaving due to frost and other agencies of weathering, a great variety of fracture is developed; and so the conservative student sees no rounding, no polish, no fracture, in any stone object that may not have been produced by natural means. It is true that large numbers of stone objects have been artificially fabricated, and that in many cases the inherent evidence of fabrication outweighs the presumption in favor of natural origin; but in all such cases there is a tangible, definite and obvious means by which the natural and artificial

are discriminated. When the object has been ground, or polished, or fractured in such manner as to indicate that its form represents a preconceived idea—a definite and intelligible conception,—then the evidence of artificiality outweighs the conservative presumption. But it should be noted that this evidence of artificiality is not, and from the very nature of the case cannot be, derived from a single object: When the unknown stone object approaches the form of a known implement or weapon, an artificial origin may indeed be justly inferred because related conceptions are exemplified by both; the origin of the neolithic implement or weapon is inferred at a glance by the student who has acquired familiarity with the concepts of neolithic man, but they are frequently interpreted erroneously by laymen; while paleolithic implements were spurned by geologists and archæologists for decades until their numbers became such as to prove that all represent a type and exemplify a conception now recognized by a limited number of trained students, though commonly misinterpreted by the rest of the world. The paleolithic belongs to a primitive or phylogenetic or erratic type; there is no fracture in its make-up that might not be natural; commonly there is no group of fractures that might be natural; its form also might be and was long considered natural; its use has never been confidently ascertained; and nothing but its obvious representation of a definite conception (evident only when large numbers are examined) convinces students of its artificial character. Now the paleolithic represents a stage of culture; but it is not safe to presume that that stage of culture existed within any land or during any period far removed from the place and the times within which paleolithic man is known to have abode. Thus, while paleolithic man is known to have flourished in Europe and America during late pleistocene time, it is not safe to assume, *a priori*, that he flourished at the same time in Africa and Australasia, or that he flourished anywhere during that early pleistocene time which has recently been shown to be ten or more times as remote as the last great invasion of northern ice; and if human relics ever come from the older deposits, they must be assembled in even greater numbers than were the far newer paleolithics, and must be classified and discriminated from natural objects by criteria not yet devised.

It is a fair presumption that any unusual object found within, or apparently within, an unconsolidated deposit is an adventitious inclusion. Every cautious field geologist accustomed to the study of unconsolidated superficial deposits quickly learns to question the verity of apparently original inclusions; he may, it is true, exhaust the entire range of hypothesis at his command without satisfying himself that the inclusion is adventitious; yet he is seldom satisfied that he has exhausted the range of possible hypothesis as to the character of the inclusion, and hesitates long before accepting any unusual association as veritable. His

case is not that of the invertebrate paleontologist at work in the paleozoic rocks, to whom a single fossil may carry conviction; for not only are the possibilities of adventitious inclusion infinitely less in solid strata, but the mineral character of the fossil is commonly identical with that of its matrix and so affords inherent evidence of the verity of the association. Nowhere, indeed, in the entire range of the complex and sometimes obscure and elusive phenomena of geology is there more reason for withholding final judgment based upon unusual association than in the unconsolidated superficial deposits of the earth; and it is only where there is collateral evidence that such testimony is acceptable to the cautious student.

It is a fair presumption that an isolated association is adventitious. Nature is prodigal of phenomena and consistent in operation, and these facts are so fully recognized by rational beings that they esteem lightly an observation which can not be repeated. The first step in inductive science is observation and the second is generalization, and if only a single observation be made induction fails; it is true that imagination may span continents, bridge oceans, roam the heavens, and produce additional phenomena upon which generalization may be propped, but faulty observation and far-fetched generalization are the bane of science. When the age of a rock formation is in question, it is not the finding of one but of many fossils, and not by one individual but by all individuals who may see fit to visit the locality, that the question is decided; when Huxley demonstrated the affinity between man and the anthropoid apes, it was not by one but by many anatomic preparations, certified not only by his own observation, but by that of all anatomists who chose to examine them; even a discovery of so little immediate importance to man as that of an asteroid, a comet, or the satellite of a distant planet, is not finally accepted on the testimony of a single observation and finds no place in science unless all other suitably equipped observers can repeat the observation; indeed, in the whole range of conservative science, no weighty conclusion is based on a single observation.

It is a fair presumption that an incongruous association is adventitious. Natural phenomena are intimately related and commonly represent links of definite sequence, and this harmony is consciously or intuitively recognized by rational beings; and so discord engenders a suspicion that the prevailing harmony has been adventitiously interrupted. The botanist has a term for sports, the zoologist for monstrosities; the physicist recognizes the aberration of sound; the paleontologist is constantly confronted with anachronisms in the distribution and sequence of organic life; but these interruptions of prevailing harmony in nature are only considered abnormal with respect to certain laws and are collated and systemized as bases for other laws. Yet the incongruous association is not commonly accepted as a

basis for generalization unless its verity is established by collateral evidence. Thus, the archæologists of the present generation have shown that man passed through certain stages of culture which correspond vaguely with certain episodes in the pleistocene history of the earth; that in general paleolithic art preceded neolithic art, and neolithic art preceded the stage of varied industries and manufactures; and in a general way that the contemporaries of the pleistocene mammalia used paleolithic implements, while the users of finely chipped implements are quite recent; and so much testimony as that offered by a neolithic object found with an extinct fauna is always weakened by the incongruous association.

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But the postulates growing out of these specific propositions may be outweighed, and indeed have been outweighed in all the discoveries by which great human antiquity has been proven to conservative students, by direct or collateral evidence. Such direct and collateral evidence should, however, be weighed in accordance with certain general principles, some of which may be stated and discussed as a series of propositions, including the following:

In inductive science the value of evidence varies with its volume, its consistency, and its cumulative character. It is a primitive doctrine, born of crude conceptions, nurtured by ecclesiastical dogma, and fostered by judicial necessity, that all evidence is either strictly true or wholly false, and moreover that final judgment must be reached in each case howsoever incomplete the available evidence may be; and the commonly accepted rules of evidence form a device for sifting testimony, detecting error and mendacity, and reaching final judgment despite the insufficiency or contradictory character of the available evidence. But the doctrine and the method growing out of it are eminently unscientific. Inductive science affords a method of reasoning from particular phenomena to general relations and principles, each phenomena is an unimpeachable witness whose testimony can be fully interpreted only in terms of that of related phenomena; the witnesses gather strength and intelligibility with numbers; and it is the great merit of the inductive method that final judgment may, and indeed must, be postponed until the evidence is complete. An isolated sport may be meaningless to the botanist, but a score may form a basis for a valuable generalization, and a hundred may bring to light an important principle; the first crude observations on meteorites only gave play to man's fancies and added nothing to exact knowledge, but extended and systematic study of these always incongruous apparitions, at the hands of Smith, Newton, Roche, Lockyer, G. H. Darwin and others, has resulted in one of the most notable advances in science of the century; the

finding of the first eocene fossil in the pliocene phosphate beds of South Carolina was simply a puzzle to Toumey, but the finding of hundreds of the older fossils in the newer deposit has thrown more light on the conditions of origin of an interesting deposit than all of the more congruous discoveries combined; and so in each branch of science, isolated observations may be at first incongruous, but become consistent and significant with multiplication, and finally by the cumulative character of their combined testimony form bases for new generalizations and new principles. Thus, at the time of the discovery of an obsidian implement in certain pleistocene deposits in Nevada some ten years since,* the discovery was nearly isolated, both in geography and geochrony, and thus of little significance; but since that time Abbott's discoveries in the Trenton gravels have been verified and repeated by a score of students, Miss Babbitt's discovery of quartz chips in the Mississippi terraces has been made and verified, the Ontario hearth has been discussed by a trained geologist, and the Metz paleoliths have been exhumed from the glacial gravels of Southern Ohio; these discoveries extend over a considerable part of the country, and were made in deposits of definitely determinate age; and it is a fact of prime importance that these deposits are coeval among themselves and with the beds yielding the Nevada obsidian. So the otherwise doubtful evidence of a discovery gains strength from the consistent and cumulative evidence of other discoveries in different parts of the land.

In inductive science the sufficiency of a given body of evidence varies inversely with the importance of the conclusion to which it leads. A single fossil or a dozen fossils may suffice to determine the age of a local formation in which a score of students are theoretically interested (and the restricted significance of the conclusion is intuitively, though perhaps unconsciously, recognized by the students when it is formed), yet, tens of thousands of fossils have not sufficed to satisfy conservative geologists that any great rock group of America is exactly coeval with the corresponding group in Europe; every naturalist had long recognized, and none disputed, the existence of individual variation among plants and animals, yet when the law governing such variation was formulated and implanted in the philosophy of science by Darwin, it required the carefully recorded and freely discussed reservations of a generation of naturalists to establish the conclusion; in early days the ever-varying hand or foot or forearm or stride sufficed to settle questions of linear measure, but with the increase in value of lands and commodities the bases of linear measure have been refined to a degree incomprehensible to uncivilized man; and while idle figments of untrained imagination formed a sufficient basis

*American Anthropologist, Vol. II, 1889, pp. 301-312.

for primitive folklore, the best efforts of the highest powers of observation and reasoning are required to form the basis of its colossal offspring, the philosophy of modern science. In exact thought, conclusions are not of like weight, and demonstrations are not of equal facility; judgment is not a tangible entity which exists but once and for all time, but an ever-varying standard of measure; and the acceptability of every conclusion depends in part upon its consequences. Now anthropology is perhaps the foremost branch of science, and perhaps the most important question in anthropology relates to the origin and antiquity of man; and by reason of the perhaps unequaled importance of the question, it is desirable that evidence concerning it should be carefully scanned as to quality and carefully measured as to quantity. Moreover, such evidences may be insufficient concerning one phase of the subject, yet at the same time sufficient concerning another phase, e. g., it would be logical to accept the testimony of the Nevada obsidian as to the cultural status of a possible pleistocene man, and at the same time to reject its unsupported testimony as to the existence of pleistocene man; or it would be logical to reject the testimony of the implement as a basis for any sweeping conclusion as to the origin, antiquity, or early condition of man, and yet place it on record as a silent witness whose testimony may become of value with research.

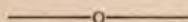
In inductive science every conclusion is tentative. The primary object of research is to determine the relations among phenomena, first, through observation, and, second, through generalization. But it frequently happens that a generalization based on a limited number of observations is materially modified by one or two additional observations, and so the conservative student learns to proceed cautiously, to constantly spur observation and check generalization, and to modify his judgment with each new acquisition of evidence. In the days of the Lyellian classification of the tertiary formations by ratios of contained fossils, certain formations of the Atlantic slope were thrown alternately into the miocene and pliocene, according to the varying success of successive collectors in gathering and identifying the fossils; the asteroid hunter carefully notes the position of the unfamiliar celestial body, and then calmly awaits opportunity for further observation before making final entry in the record of the known solar family; and the naturalist penetrating untrodden wilds fixes mentally the habitats of a score of species as tentatively determined by each day's study, yet makes no final record of any until his work is done, and then holds his conclusions subject to modification by any subsequent observer. Indeed, no conclusion in inductive science can be final and unassailable until the cosmos is encompassed and all the relations of each phenomenon to all other phenomena are made known. Thus, the Nevada obsidian is an isolated and incongruous phenomenon, and any judgment concerning it must be

of relatively little weight and subject to modification with new discoveries, and it is perfectly logical to accept the verity of the association and record the fact of its finding, yet to withhold immediate judgment as to its significance and allow the interpretation placed upon it to vary with the progress of discovery, either in the same deposit or in other parts of the country.

In exact knowledge the sufficiency of evidence and the validity of conclusions vary inversely with the exactitude of the branch of knowledge affected. The character and objects of science are various. Mathematics is a device for reaching infallible conclusions from given premises, and the method, or mechanism, constitutes the science; astronomy deals primarily with the relations among certain material phenomena and only subordinately with the material phenomena themselves, its methods (which are borrowed from mathematics) constitute the principal part of the science, and so the branch of knowledge is exact in a high degree; physics deals with material phenomena and their relations, its sum comprises both methods and objects, and its methods in so far as they are mathematic are exact; but by reason of the complexity introduced by the consideration of material in connection with immaterial phenomena, greater conservatism is required in physics than in astronomy. In mathematics, to a less degree in astronomy, and to a still less degree in physics, the method is predominantly deductive and proceeds in accordance with fixed principles; and so axioms rather than evidence are weighed. In biology material objects are the principal subject matter of the science and methods are subordinate, and the exact methods of mathematics are inapplicable; in geology, which is a composite branch of knowledge trenching upon astronomy, touching biology, and overlapping far upon physics, the principal subject matter is material phenomena, and the relations of these phenomena are too complex to be discovered by any deductive method; in anthropology, which deals with the multifarious phenomena of all of the other sciences together with the infinitely more elusive and mysterious phenomena of the human mind, the matter of science is as everything and the method as almost nothing; and many conservative students of the diverse subjects of human thought hold that anthropology may not be considered a branch of science because of its many sided and elusive character. In biology, in geology, and in anthropology the method is necessarily inductive and proceeds along lines only determined as research progresses; and so evidence concerning phenomena, rather than axioms concerning the relations among the phenomena, are weighed.

This is true to a larger extent in geology than in biology, and to a far larger extent in anthropology than in any other branch of science; and just in the order in which it is true, the necessity for careful scrutiny of evidence and for conservatism in reaching conclusions increases. Logic—twin sister of mathematics,

though now so well grown as to be dignified by its votaries as the Science of sciences—logic indeed affords a device for reaching just conclusions from trustworthy premises; it has the merit over mathematics that it deals with qualitative as well as quantitative relations; but just so far as it rises into the domain of intrinsic as well as simply extrinsic properties and relations, it falls short of the exactitude of mathematics. The food of mathematics is axioms, and its fruit is quantitative relation; the food of logic is premises (which in natural science are phenomena), and its fruit is philosophy; but the fruit can never surpass the source whence it springs, no combination or permutation of error can result in truth, no conclusion can outvalue the premises whence it flows; and so neither the legitimate use nor the legerdmain of logic can supplant caution in scrutinizing evidence and conservatism in accepting conclusions. It is true that the mechanism of logic is as applicable to the sifting of evidence as to the testing of methods and the weighing of conclusions; but the contagion of original use has extended from the more exact to the less exact branches of science, and this special and fundamental use is seldom properly appreciated. Anthropology is the least exact of the sciences; and it is in anthropology that the demand for the careful weighing of premises and the assembling of voluminous evidence to justify given conclusions culminates.



THE ALASKAN NATIVES OF FT. WRANGEL.

BY EGBERT GUERNSEY, M. D.

It was at Ft. Wrangel that we came in contact for the first time with the manners, customs and home life of the Alaskan Indian. He is, as seen either in his wild or semi-civilized condition, small of stature, evidently of Mongolian origin, and bearing in features and temperament unmistakable traces of his Japanese ancestry. Unlike the North American Indian he is industrious and ingenious in mechanical construction and design. It is not uncommon for the Japanese junk disabled on the ocean to drift along the great Japanese Gulf Stream, whose warm current tempers our north-western coast, and to be driven on our shores. Captain George, the intelligent pilot of the steamer *Elder*, in the twenty years he has been upon the coast, can count more than a dozen of these junks with their complement of seaman wrecked upon the Alaskan coast. The island communication stretches from one coast almost to Japan, and the passage across Behring Straits is so short as to admit of free communication from one continent to the other.

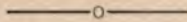
The Indian tradition of the creation of the world makes all life come from the Raven. After he had created the world he

made man out of stone, but as this material would live forever, he destroyed it and made him out of a leaf. Before making man he made woman out of a strawberry blossom, making her supreme as the representative of the Crow family, while man, created last, is the head of the Wolf, or Warrior family. From them sprang the sub-families of the Whale, the Bear, the Eagle, the Beaver and the Fox. The Raven was originally white. He had an uncle who was a maker of the water. The Raven went to him, and while the uncle was asleep, filled his stomach and beak with water, and then attempted to escape through the chimney. The uncle waking, built a fire and smoked the raven black, whc, as he flew away, dropped the water from his beak, making the seas and oceans. Property descends on the mother's side, and children always bear the tribal name of the mother.

The problem, what is to become of the Alaskan Indian, is one to which the attention of our Government should be seriously directed. Within the past twenty years the native population has diminished one-half, swept away by the hardship of their lives, their dissolute and licentious habits, and the ravages of disease, sometimes of the most disgusting form; in a few more years they will as a race have passed away, unless the Government adopts some radical method in their behalf. Very few old people are seen among them, the exposure in infancy and childhood sowing the seeds of consumption, which carries them off in large numbers, before they have reached middle age. Epidemic disease, from the entire lack of all sanitary regulations and medical care, are peculiarly malignant. Forty years ago an epidemic of small-pox carried off half the natives of Alaska. The smoke of their dwellings and the glare of the snow subject them to severe forms of ophthalmia, so that impaired eyesight and even blindness is very common among them. Public schools have already been established at Sitka, Juneau, Wrangel and Killisnoo, and at Sitka a Mission of the Presbyterian Board are gathering Indian children into the Mission House, and giving them instructions in trades and something of an idea of home life.

But all that has been done is only a drop in the bucket. Broader and more radical measures are needed now from our general Government to regenerate a race, which the tide of death is fast sweeping along to extermination. The first and most important requisite is hospitals sufficiently commodious to accommodate all the sick who can be persuaded, or forced, if the demands of public safety require it, to enter the walls. * * * Make them wards of the State and place them in schools, which shall be their homes for a certain number of years, where they are taught the industries of civilized life. If the present generation is too far sunk in vice and tainted with disease to receive much benefit from these measures, the initial step will be taken in the

hospital to check the contamination of disease among the young, and in the schools, to send our children trained in a higher civilization, carrying with them and putting in practice the information gained in their years of study and mental and mechanical training. This work can only be accomplished by Government, and the question rests with our legislators at Washington whether the proper steps be taken immediately to save a race, with the bright promise of usefulness which this race possesses, if cared for, or whether they shall be left to drift on without thought or care to that extinction to which they are surely doomed unless the Government at Washington stretches out its strong arm to save them.



THE STORY OF SKAGA BELUS.

BY JAMES DEANS.

This remarkable legend I found amongst the Haida tribes of Queen Charlotte's islands, British Columbia. Although only a legend, it contains historical data enough to shed a gleam of light on the long-forgotten migrations of the early inhabitants of Northwestern America. And as such it is well worth preserving, not only in the valuable pages of *THE AMERICAN ANTIQUARIAN*, but by all and every one who take an interest in the subject in America and in other countries as well. But I must to the main point of my story, Skaga Belus.

Skaga is the name in the Haida language for a doctor or medicine man. The words *Skah gilda*, from which skaga is a contraction, means one with long hair, from their never cutting their hair, but always wearing it rolled up in a bunch on the top of the head. This makes them resemble the figures on the tablets in the ruined cities of South America. If those figures were priests, so likewise were the Skaga, whose functions amongst the Haidas is all that remains of an ancient priesthood—a fact of which I have many proofs. I have heard of many famous ones, but the greatest of them all was the subject of my story. Skaga Beelas or Belus was the most famous as well as the most remarkable of all who ever lived in Haida land or amongst any of the tribes on this Northwest coast. The account given of him by the Haida tribes is as follows :

Very long ago, our fathers and mothers tell us, lived a good Skaga. He was the best man that ever lived in Haida land ; he was good and kind of heart, ever ready to attend the sick and to help the poor and distressed ; always advising the people to love each other, because, he said, if they lived in unity there would be no wars nor bloodshed, nor no theiving ; all the Haida tribes, instead of fighting and trying to destroy each other, would live and love one another like brothers and sisters. After

living amongst them many years, and having gained the respect of these people from the eldest to the youngest, he called them together and, to their sorrow, told them that he was going to leave them; that they were not to grieve over his absence, because after a while he would return and never again leave them. So wishing them all keel-slie (farewell), he took his departure. As to the mode of his going away I may say a few words. Some of the people say he died and was buried; others of them say that his body lay dead for a year and that his soul went to heaven, where it heard and saw wonderful things, along with their parents, in the beautiful country to which they had all gone. He told them that all who while here had led good lives were happy in that beautiful country beyond, and that at the end of life's journey would not only be met by their relations gone before, but would each one of them have homes prepared for them corresponding in beauty to the lives led by them while on earth.

When he left he was sorely missed by all the people, who never failed to look forward to his return. At the end of a year's absence he suddenly made his appearance amongst them again. After he returned he lived with them so long and grew so old, that excepting his spine, which alone he could use to move his back, all other parts of his body were dead and shrunken. If his life before he left was good, after his return it was better. Still anxious to teach them everything good, the more earnest was he to urge them to love and help each other, and above all to keep from inter-tribal wars. He further told them, if they did so they would become a great, a happy and a prosperous people. If, on the contrary, they fought tribe against tribe and made slaves of their brothers and sisters, they would become weak, because few in numbers, and at last a fair complexioned race of people from the land of the rising sun would come and take possession of their country and all their belongings, until their existence as a people would cease, their name be forgotten, and of their language nothing but a few names of places would remain. When these people came, they (the Haidas) were neither to kill nor ill treat them, because they would bring amongst them implements far better than the rude stone ones then in use. And he also told them that these people would give them a new and better sort of food. He, tradition says, conversed with them after that manner as long as his strength lasted, and with his latest breath could be heard to say, "Be kind to each other."

By the new sort of implements, the Haidas of to-day consider the small iron adzes (called toes) brought amongst them by the earliest traders, and the axes and other tools of the present day, a fulfillment of the first part of the prophecy; flour is considered a fulfillment of the latter part, while we colonists are believed by them to be the fair strangers from the east.

The Haidas are keen traders, and they have often told me that they were so out of respect to Belus. They also boast that they never killed a white man, for the same reason.

As regards the weird song which affected me so much, this may be said: Belus, it seems, told them that along with the evils which would befall them following their decadence would be dreadful diseases, which coming amongst them would spare neither youth nor age, and for the loss of their relations they would naturally feel bad; so as a means of relief he recommended them to hold sittings as before mentioned, because, said he, by coming to your sittings your spirit friends, as well as those who died before their time, would be able to learn something whereby they would be enabled to advance to higher homes (spheres), while presence at your sittings would cheer the lot of those left behind. Besides these admonitions, he also taught them the above mentioned song, or rather I should say lament, because it may truly be considered as one—the lament of Skaga Belus, a lament not only for the dear departed, but for the failing fortunes of the Haida people. He also told them that every time they met, in order to commune with their spirit friends, they were to sing it just before leaving for their homes. This they never failed to do, with its slow, weird and mournful numbers. The tune somewhat resembles the one usually sung in Scotland to the song "Land o' the Leal," or to some of the *bian orans* (mournful songs) of our Scottish Yeal. As far as the words are concerned, I am unable to give them, although I have tried for years to get them correct. During a four months' stay with the Haidas the past summer (1889), I tried hard to get the words and tune; to my surprise I could not find one who knew anything of Skaga Belus, although in the same tribe twenty years ago every one, from the oldest to the youngest, knew him and sung his song. Instead of these weird songs of olden times, which now are seldom heard, such new ones (to these people) as "Nearer My God to Thee," etc., can be heard any time, day or night.

In conclusion, I shall say a few words while asking the question, Who was Belus?

Bol, Bel, Beluus, Belus, Baal, or as the Greeks called him, Apollo, was first king of Assyria. He conquered Babylonia from the Arabians, over which he reigned for twenty-seven years—from 1993 to 1966 B. C., or about four thousand years ago. After his death his son Ninus caused him to be placed amongst the gods, and he was worshiped as the sun at divers places and by divers people. The Jews had a temple wherein to worship him, with a grove arund it.* The Babylonians also had a temple for his worship.† This temple was the most an-

*Josephus, *Antiquities*, Vol. I.

†*Ibid.*, Vol. II, 10.;

cient and became the most magnificent at one time in the world. Amongst the British Druids May-day was called *Beil Teine* (Belus fire), because on that day they burned large fires to Biel. In the low-lands of Scotland a bone or large fire is called Beil-fire to this day.

The Chiapanecs, a very old branch of the Toltecs, say they were descended from Cham (Ham), the son of Noah, and that the first settler in Chiapas was Mae, or Imoe, or, as he is oftener called, Ninus. This Ninus was the son of Belo (Belus), who was the son of Nimrod, who was the son of Chus, who was the grandson of Ham. When or where these Chiapanecs got the name Belo or Belus, I can not say; but wherever they got it, it no doubt was from a people who pronounced the name Bel, Belus or Belinus, and not from a people who called it Baal. In looking over the pages of ancient history we find that the Pelasgi or Syrians, who lived on the sea coast of that country, pronounced it Bel. No doubt from these Pelasgi, who were great sailors, and were found all over the (then) known world, as well as making a settlement in Greece about 1883, B. C., came the Bel, Belus or Belinus into the west. How the Haidas came to get the name I have so far been unable to find any clue, except that the name is pronounced Belus instead of Baal. It is strange that a people living so remote as the Haidas should be, as well as most of the ancient nations, acquainted with Belus. They did not get the name from our people—quite the reverse. The story has passed through unnumbered ages down among them from sire to son. Not the least strange is it that it was Belus who first taught them the occult sciences and to practice them as used to be done in ancient times.

There was nothing revolting in their meetings. Each person would sit quietly down alongside of each other, until an oval was formed, at one end of which was a small fire; at the other end, next the door sat the Skaga or medium. After a little quiet conversation one of the number would take up a song, in which all but the Skaga would join. The song would be like the following: "The good Skaga is here to-night, E ha ha, hac hoo. And through him our friends of the a-wohl (feast time) will come. Hydrel, hydrel (come, come), hak-weet (quickly)," etc. While the Skaga was talking all was quiet, unless a question was asked of the control. In the time between one control leaving and the next one taking possession they also used to sing, how glad they were again to hear from him, or her, as the case might be. And so on to the end, when finishing up with Belus' song, all went to bed. Judge Swan, of Port Townsend, thinks the Haidas are descendants of the ancient Aztecs. I believe myself that in remote times some connection existed between them.

ALTAR MOUNDS AND ASH PITS.

BY STEPHEN D. PEET.

The subject which we have chosen for this paper is one of great importance, and one which has an especial bearing on the Mound-builders' problem. This will be seen as we proceed to unfold the facts which have come to light, but it may be well to consider beforehand some of the points which are involved in the study of it.

It will be noticed that the history of mound exploration began with the discovery of the altar mounds and the remarkable relics which they contained. The exploration of the ash pits is, on the contrary, very recent, and marks one of the latest events in archæological discovery. It was in the early days of archæology that the authors of the "Ancient Monuments", Messrs. Squier and Davis, began their exploration in Southern Ohio; but it was in connection with the altar mounds that the most remarkable discovery was made. This discovery was in the neighborhood of Chillicothe, the very place where these gentlemen resided. Here, in the midst of that very wonderful series of earth-works which then surrounded that city, and which were at that time in a very fine state of preservation, these gentlemen came upon that small enclosure to which they gave the name of "Mound City". The enclosure was by no means a "city", for it was but a little circle and contained scarcely more than thirteen acres of land, but it was a spot which proved very rich indeed in archæological treasures. The treasure house of Mycenæ may well have surprised the great explorer, Dr. Schliemann, but this with the discovery of the palace of Priam in Troy, may be said to have led to nearly all the explorations on the classic soil which have been carried on since that time, and to be in reality the starting point of classic archæology as it now exists. So we may say that the little enclosure which contained twenty-four burial mounds, which was situated in the valley of the Ohio river, was the starting point of archæological discovery in this country and the beginning of prehistoric science in America.

The idea that there were chronological horizons in America as well as in Troy or in Egypt may not have occurred to many, but this is the very point brought out by the study of the altar mounds and the ash pits. These are eminently tokens which prove that there was a succession of races or tribes among the

Mound-builders, and that each tribe or race left its record plainly written beneath the soil. While there are no buried cities here, and much less a succession of cities such as have been found in the great mound at Hissarlik; while there are no statues of kings which belonged to different dynasties, such as have been exhumed at Pithom in Egypt; yet in their rude way the Mound-builders did leave vestiges of themselves indicating diverse populations and distinct grades, so that we may easily separate one from the other. It appears now that there were dynasties or races in the mound-building era, which are as distinct as those recognized among the pyramid-builders of the East. The dynasties may not have as distinct a history and the monuments may not be as full of hieroglyphic records, yet the relics and the mounds do reveal a history of the past which is plain and true. The invasion of the shepherd kings into Egypt changed the records of that land. So the invasion of different tribes here changed the aspect of affairs, and we may recognize in the mounds the different grades of society, different modes of life, and even different race qualities, thus carrying out the analogy in many particulars.

The distinction between the Mound-builders and Indians finds illustration here. The study of the altars and the ash pits seems to confirm this distinction rather than to confute it. It will be noticed that the relics taken from the altars are not only different from those taken from the ash pits, but they show a very different condition of society, a different stage of culture, a different system of religion, and even give the idea that the occupations or employments of the people were also very different. This is an important point. We do not undertake to say who the Mound-builders were, nor do we hold for a certainty that they belonged to a different race or stock from the modern Indians; yet so far as their tools are concerned, we should say that the evidence is all in favor of a diversity of origin, the later people being allied with the Mongolians of the northeastern Asiatic coast, but the earlier people with the ancient races of the European continent.

Was there a division into epochs? The ash pits we may regard as belonging to the most recent people. They are so different from the altars that any one who has learned about them must have come to the conclusion that at least two classes of people must have occupied this same region, one preceding the other, but the more advanced being perhaps the earlier. We do not know who the people were who dug these pits and deposited their relics in them, but enough is known to prove that they must have been not only different from those who had erected the altar mounds, but they must have been a more recent occupants of the soil, and the probabilities are that they were a wilder or ruder people. This impresses upon us the fact that there

were probably several epochs in the mound-building period. The first epoch was that marked by the presence of the serpent-worshippers—the people who erected the great serpent effigy in Adams county, and perhaps the effigy mounds at Granville and Portsmouth—a people who afterwards migrated and became the effigy builders of Wisconsin. The second episode in the Mound-builders' history we may consider as the one which was marked by the altar mounds. It was the age in which sun-worship reached its height. At that time the sacred enclosures were erected; at that time the relics of the Mound-builders were offered in great numbers to the sun divinity. At that time the finest works of art which have been discovered were created, and at that time the most elaborate and extensive earth-works were erected, and the highest stage of civilization known among all the mound-building races was reached. The third episode

in the mound-building period was that which is marked by the stratified mounds and by the chambered tombs. It is supposed that an unknown people—who possibly may have been the ancestors of the Cherokees—intervened between the sun-worshippers and the people of the ash pits and chambered



Fig. 1.—Altar Mound at Clarke's Fort.

mounds, and who left the tokens of their presence on the soil of Ohio. The ash pits mark the last episode of the mound-building period. We do not fix the date exactly, and yet there are some evidences which show that it was very near the historic age. It may possibly have been even subsequent to the discovery by Columbus that these remarkable relics were deposited.

As to the ages represented a few words will be appropriate. The relics seem to belong to the stone age, and perhaps indicate to us the cult of that age; and yet those from the altar mounds are nearer the "bronze age" than to the stone. Perhaps we might class them with a "copper age," and from them learn the characteristics and the cult of that "age".

We have said that altar mounds were closely associated with sacred enclosures, and that both were probably the work of the class of sun-worshipping Mound-builders, but we find among the relics deposited on these altars many things which remind us of the cult of the serpent-worshippers, the two systems apparently having been mingled in the altar offerings. The ash pits, on the contrary, seem to have been associated altogether with the cult of a people who deposited their relics in graves rather

than in mounds, the large majority of them being in the midst of the cemeteries, in which many bodies were deposited, so that we are inclined to say that these were not the work of Mound-builders at all, but were left here by a later people who resembled the modern Indians. Still the relics discovered in the ash pits nevertheless remind us of the "age" of the Mound-builders, and the question arises whether there was not a practice of borrowing the art of relic making from one another among the prehistoric races, and whether this does not in itself suggest to us many things concerning the relation of the two classes of people in prehistoric times. We look to the relics for the records of the past. It may be that we shall find in these very relics taken from the altars and the ash pits the different leaves of the book which contains the history for which we are seeking.

The next point has reference to the religious symbolism which prevailed. We have spoken of this elsewhere, but the position



Fig. 2.—Copper Rings from an Altar Mound.

taken is confirmed. Our opinion is that these altars mark the places where the sun worshipers offered their sacrifices to their great divinity—and that in them we find the symbolism of this cult. Our reasons for this belief are the following:

(1) It will be noticed that the altars were all contained in enclosures, which, owing to the uses to which they were applied, may well be called sacred enclosures. It is well known that the ancient inhabitants of Briton were accustomed to erect their stone altars within circular earth walls like these, and that on these altars they offered their sacrifices to the sun, sometimes immolating even human victims. This is true of the inhabitants of Mexico and of the Pacific Islands, who were also sun-worshipers. (2) The altars were evidently symbolic in their shapes. They were to be sure little more than shallow saucer-like fire beds, which were placed on the surface of the ground and filled with relics of various kinds which were offered to the sun. Many of them, however, were circular in shape; some of them contained a double circle, some the square and circle; occasionally altars contained crescents made from silvery mica, the shape of the crescents and the shining material of which they were composed giving the idea that they were the symbols of the great moon divinity, which in common with the sun was worshiped by these strange people. (3) The use of fire in the sacrifices. It appears that all the altars give traces of a "great burning." In some of them human bodies seem to have been cremated; in others stone

relics were deposited and reduced to fragments by the action of fire. The altars seem to have been kept open until fixed times, when the solemn rites were observed. The fires were lighted in the midst of the enclosure, the offerings were partially consumed while the people looked on, but afterwards smothered by throwing earth upon them, which became hardened into a crust over the altars, and upon this was erected the mound, which continued to be a silent monument to the sun. We now proceed to consider the contrasts between altars and ash pits, and their relics.

I. We first turn to the description of the altar mounds. These as we have said, were the earliest to be discovered, the majority of them having been explored by Messrs. Squier and Davis. Altar mounds, however, have been discovered in many places, and they now constitute an interesting class of archæological tokens. It was thought they were found only in the State of Ohio, but it is now known that similar mounds exist near Daven-



Fig. 3.—Altar Mound with Indian Burial Intruded.

port, Iowa, in various parts of Illinois, and a few among the effigy mounds of Wisconsin. This brings before us the question of the migration of the Mound-builders—a question which we shall defer for another paper. At present we shall speak of the altar mounds of Southern Ohio.

Let us consider the locations of the altar mounds. It may be said that the largest number and the most interesting specimens are those which were discovered near Chillicothe, Ohio. This is the first location. The second is not very distant from this. It is the group which was discovered on the north fork of Paint Creek, in the midst of the enclosure called Clarke's Fort. See Fig. 1. The third location is that found on the banks of the Little Miami river, not far from the Ohio river, some twenty miles east of Cincinnati.

There are altar mounds in other parts of the country, but they are seldom contained in enclosures, but are oftener the cremation places where bodies have been burned, the relics found upon them having been buried with the bodies. We may say that the serpent-worshippers erected altars, but they generally used them as cremation places. The sun-worshippers, however, used them not so much as cremation places as places for the deposit of costly offerings, though remains of bodies are sometimes found

(1.) We begin with the altar mounds at Mound City. This is an enclosure three miles from Chillicothe. It contained thirteen acres. Here within the walls were twenty conical mounds, all of which were explored, and the majority of them proved to contain altars. This puts it beyond question that they were places of sacrifice. One of these mounds was 17 feet high, 100 feet in diameter. It was a stratified mound, four strata in all; at a depth of 19 feet was a level floor of clay, slightly burned, and around this floor was a layer of silvery mica, formed of sheets which overlapped each other like the scales of a fish. This layer was in the form of a crescent, the outer edge of which rested on a ridge of sand six inches in height. The length of the crescent from horn to horn was 20 feet, its greatest width 5 feet. The mica sheets were about 10 inches or a foot in diameter, composed of what is called graphic mica. It is supposed that these crescents marked the unknown rites or ceremonies, and which may have been connected with the worship of the moon, as it is not supposed to have been a mound of sacrifice.



Fig. 4.—Double Altar.

Another mound of this group was 7 feet high by 55 feet base. This mound was stratified with eight layers of gravel, sand and earth. At the bottom was an altar of burned clay, 5 feet by 9. It was filled with fine dry ashes and fragments of pottery, copper disks, and above the ashes was a layer of silvery mica, in sheets, overlapping each other. Above the mica was a quantity of human bones. Another mound, 90 feet in diameter and $7\frac{1}{2}$ feet in height, contained five layers and an altar. The altar was 10 feet in length and 8 in width at the base, 6 feet by 4 at the top; the dip of the basin was 9 inches; it was filled with ashes.*

This mound (Fig. 3) was composed of five strata, as follows: 1, gravel, one foot; 2, earth, three feet thick; 3, sand; 4, earth, two feet thick; 5, a stratum of sand; 6, the altar. The altar was a parallelogram, 10 feet by 8, 18 inches high. It contained a few shell and pearl beads and fragments of pottery. The intruded burial contained two skeletons, various implements of horn and bone, several hand axes and gorgets of stone, the shoulder-blade of the buffalo, shaped like a Turkish scimeter, an instrument made of an elk's-horn, used as a war-club, all exceedingly rude, and resembling articles used by Indians.

Another mound, 90x60 in diameter, 6 feet in height, had two

*See Fig. 3, also Ancient Monuments.

sand strata. It contained a large quantity of galena, 30 pounds in all. The galena was in small pieces; around this deposit was a layer of charcoal. The altar bore marks of intense heat. Still another mound, 140 feet in length, 50 or 60 in width and 11 high, with two sand strata, contained an altar 60 feet in length, which formed a basin not far from 18 inches in depth. Within this basin was another altar (see Fig. 4), 8 feet square. This altar seems to have been burned to the depth of 22 inches, showing that one altar had been built upon another, and fire had been applied at different times. It is supposed that three successive burnings had occurred before the altar had been covered. There was a thin layer of fine carbonaceous matter in the altar, a number of pieces of timber; other things would justify the inference that they had supported some funeral or sacrificial pile. A quantity of pottery, many implements of copper and stone were deposited on the altar. They had been subjected to a strong heat. Among the implements were arrow-points of quartz in fragments, some fifty or one hundred of them in number, two copper gravures or chisels, twenty or more tubes of copper, many fragments of pottery, a couple of carved pipes, one of them a bird resembling the toucan. There were fragments of obsidian and crystals of garnet also on this altar.



Fig. 5.—Paved Altar.

Another mound contained an altar 8 feet 2 inches in length, and about 4 feet in width, the depression 6 inches. In the altar were about two hundred pipes, carved in stone, many pearl and shell beads, disks of copper, ornaments of copper, covered with silver. The pipes were much broken up. The heat had been sufficiently strong to melt the copper. The bowls of the pipes were carved in the shapes of animals, birds, reptiles, etc., all of them executed with strict fidelity to nature. The otter is shown in the characteristic attitude, holding a fish in his mouth; the heron also hold a fish; the hawk grasps a small bird in its talons, which it tears with its beak; the panther, the bear, the wolf, the beaver, the squirrel, the raccoon, the hawk, heron, crow, swallow, buzzard, paraquet, toucan, turtle, frog, toad, and rattlesnake are recognized at the first glance. The most interesting and valuable in the list are a number of sculptured human heads, representing the physical features of the ancient people by whom they were made. Copper disks, tubes, pearl, shell and silver beads were also found in this mound. The silver was reduced to extreme thinness, not exceeding in thickness ordinary foolscap paper; it was plated, or, rather, wrapped around copper beads. There were a number of large beads of shell enveloped

with sheets of copper, with thin sheets of silver over the copper. Besides there were several star-shaped ornaments composed of shell, covered by an envelope of sheet copper, over which silver slips were carefully folded. A small hole passed through the center of these ornaments, by which they were fastened, probably to the clothing of the wearer. There was but a small amount of silver; the whole amount would not exceed an ounce in weight.

Another of these mounds contained three sand strata and an altar of unusual form. At a depth of $4\frac{1}{2}$ feet the deposit was reached, which consisted of a pavement of water-worn stone, taken from the river. See Fig. 5. The pavement was 6 feet long and 4 broad. On the pavement was a skeleton. A fire had been built over it. There were no relics with the skeleton, though around the head were disposed a number of large fragments of cyanite, a material from which the instruments of the modern Indians were frequently made. After the burial rites had been performed, the altar had been filled and another fire had been



Fig. 6.—Altar Made of Flint Disks.

kindled, leaving the earth of a reddish color. The whole had then been covered up by the mound. There was an intruded burial in the top of this mound. Another mound, 80 feet in diameter, 6 feet high, contained an altar composed of two layers of disks, chipped out of horn stone, some nearly round, some in the form of spear heads, measuring 6 inches by 4. Six hundred disks were thrown out. These disks were deposited here perhaps as an offering; they must have been fashioned with toil and brought from a distance. They were carefully laid in two tiers, one layer upon another, a little inclining or overlapping one another. See Fig. 6. This leads to the conclusion that human sacrifices were practiced by the Mound-builders of this region.

Another mound which belongs to this group near Chillicothe is the one represented in the cut Fig. 7. This mound was situated in the center of a large enclosure, but was solitary. It contained two altars, both of them cased or paved with pebbles. The paving was made from pebbles about the size of a hen's egg. These were laid with the utmost precision, rivalling the pavers' finest work. Upon the altar was found burned matter

and human bones, and encircling the bones were ten wrought copper rings, probably the bracelets of the arms which had been burned. See Fig. 2.

(2.) We now turn to the second locality. This was at Clarke's Fort, situated some twenty miles north from Chillicothe. The fort itself contained a hundred and eleven acres. Within the fort was the small enclosure in which were the altar mounds, showing that it was the sacred place for the clan which (see Fig. 18) dwelt here. This so-called sacred enclosure was semi-circular in shape, 2000 feet in circumference, and in it were seven mounds, three of which were joined together, forming a continuous elevation 30 high by 500 feet long, the other four being isolated mounds (see Fig. 1). Here the ground was elevated above the surface and overlooked the area of the larger fort in which they were enclosed. The mounds were all places of sacrifice. One mound here contained two altars, or rather an altar and near it a bed of charcoal. On the altar, which meas-



Fig. 7.—Double Altar.

ured not more than 2 feet across, were some remarkable relics: Several instruments of obsidian, broken, but evidently designed for knives; several scrolls from mica, perforated, designed as ornaments to a robe; traces of cloth with thread, doubled and twisted, made from some vegetable fibre; several bone needles; a quantity of pearl beads; some fragments of copper. Another mound in the same enclosure contained an altar of large flat stones, faced on the top and sides with slabs which were closely fitted together. The altar bore marks of fire. The deposits on it had been removed by modern Indians, who had opened the mound and buried one of their dead on the slope of it. Another mound contained an altar with a level area 10 or 15 feet broad, which was covered over with earth, a foot deep, followed by a stratum of small stones. Hundreds of relics were taken from this mound. Several coiled serpents, carefully enveloped in sheet mica and copper; carved fragments of ivory; a large number of fossil teeth.

(3.) Another locality where relics have been found upon altars is the one which has been described by Prof. Putnam under the name of the Turner Group, in Anderson township on the Little Miami river. The group embraces thirteen mounds and two earth circles, is enclosed by two circular embankments. Several of the mounds contain altars. One altar contained two bushels

of ornaments, stone, copper, mica, shells, and thousands of pearls, nearly all of them perforated. The copper ornaments were covered with native silver, pounded into thin sheets. One copper pendant was covered with a thin sheet of gold, the first specimen of native gold that has been found in a mound. Here were thirty of the singular spool-shaped ear-rings, ornaments of copper resembling the heads of animals, a few grotesque human profiles; scrolls, scalloped circles, oval pendants, several finely chipped points of obsidian, three large sheets of mica. The most important of all were several masses of meteoric iron, and an ear ornament of copper covered with a thin plating of the iron. Three of the masses of iron had been more or less hammered. They proved to contain nickle, and were unquestionably meteoric. Another altar contained several terra cotta figures, all of them more or less burned. Many of them appear to have been purposely broken. These show the peculiar method of wearing the hair, singular head dress, and button-like ear ornaments; two remarkable dishes carved from stone, in the form of animals; a serpent cut out of mica; several hundred small pebbles; 300 astragali of deer; a finely made bracelet of copper; several ornaments of copper. Another mound contained a tumulus surrounded by a stone wall, in which were several skeletons. With each of three of the skeletons were found a pair of spool-shaped ear ornaments, two large sea shells and a copper celt. This mound seemed to be full of a series of pits, with tubes and flues, showing the action of fire. The Marriott mound, adjoining the Turner group, contained a large quantity of relics. The mound was 2 feet high and 60 feet in diameter, with a basin of burnt clay in the center. Within the mound were many bone implements, such as needles and awls, chisels, objects of stone, 400 flake knives, also 10 handles of knives made of antler, in a pile, under the bones; with the group of handles, chipped points and flakes, a copper plate cut from a sheet of rolled copper, 9 inches across and in length, $5\frac{1}{8}$ in width; with the plates 6 canine teeth of bears, with pearls inlaid; 6 spool-shaped ear ornaments, four near the head and two in the hands, also a large quantity of pearl beads, 250 or 300 in number. The ear ornaments have vegetable fibre wound around the central column. These may have been placed with the dead as tributes. The number of these ornaments found on the altars of the great mound, some covered with native iron, others with native silver, shows that they were regarded as valued offerings in keeping with the thousands of pearls and other ornaments thrown upon the altar fires during the ceremonies which there took place.

These altars in Anderson township, as well as those on the north fork of Paint Creek and in the Scioto valley, were all in enclosures, surrounded by a circular wall, but the most of the relics seem to have been placed on the altars and offered, fire

having been applied, and the costly relics burned and destroyed by the heat. What was the object of making the altars? Was it to appease the divinity and to ward off some great calamity, or was it to present these costly gifts to the spirits of the deceased, that they might have pipes and ornaments in the land of the shades, the shadowy shapes of the pipes going up in the flames to be taken by the spirits which were hovering near? The answer to these questions cannot be positively given. There seems to have been mingled sun-worship and fire-worship in all of these localities, and there are some evidences to prove that human bodies were cremated, and that the offerings of costly relics were to the spirits of the dead. Many of the relics were associated with human bones, giving the idea that in some cases at least bodies were burned at the same time that the relics were deposited. There is a distinction between the altars on which offerings were made, and the basins or fire beds on which bodies were burned. The last case which was described, the one in Anderson township, was a fire bed. The altar was in the midst of the bodies that were buried. It will be noticed that there were no offerings as such in this burial place, unless we consider the pottery and flint flakes and the bundles of knife handles, as offerings. Otherwise it was a burial place in which cremation had been practiced.*

II. We now turn to the study of the relics. It will be noticed that the relics taken from the altar mounds are of the same general character. They abound with fine sculpturing and are many of them imitative of animated nature. There may be a slight difference between the specimens taken from the Turner group and those from the Chillicothe mounds. We learn from them that the people who erected the altars were well advanced in art. We may say, in fact, they were more advanced than any other known race of Mound-builders. No specimens have been discovered which can compare with these. Great contrasts may be seen between these relics and those taken from the ash pits, and we might also say include the relics taken from the stratified mounds. We call attention to these contrasts as we proceed.

(1.) Let us first consider the relics found in the altar mounds. These were of all kinds of material—copper, lead, mica, gold, silver, meteoric iron, pearl beads, shell ornaments, carved stone, highly wrought pottery, and even woven cloth. We may say that all these seem to have been the work of one people, for they all have the same general characteristics. There are, to be sure, certain variations in the different collections, those from the first locality having more human-shaped carvings, those from the second abounding more with the figures of serpents, and those from the third exhibiting more of the spool-shaped ornaments

*See 18th Annual Report, Peabody Museum, pages 450-466.

and more metal covered specimens. Still, so far as the art was concerned, we place them all in the same grade. It is unnecessary to say that they are immeasurably beyond anything which the North American Indians are known to produce. They combine taste in arrangement with skill in workmanship, and are faithful copies of nature. They display animals in characteristic attitudes and show great familiarity with their habits. The human effigies are valuable as ethnological specimens, giving the features characteristic of the tribes then extant. The ornaments are also suggestive as to the dress worn in prehistoric times.

We now proceed with the specific cases, and take up the specimens from the enclosure called Mound City. A description of the relics was given by Squier and Davis at considerable length.

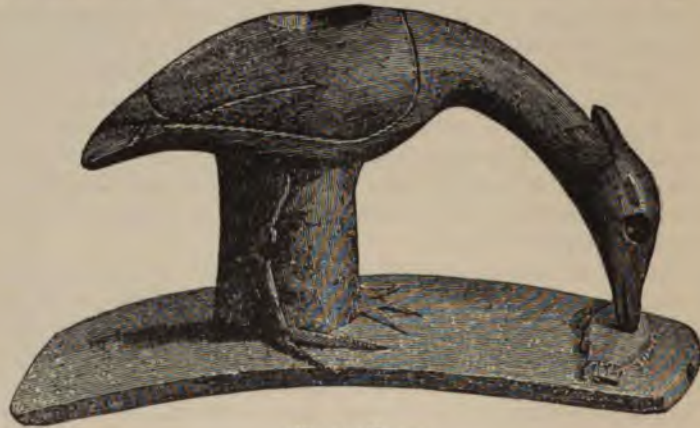


Fig. 8.—Heron.

From this we learn that the carved pipes were especially beautiful and true to life. Among the most spirited and delicately executed specimens are those representing the birds. They are more numerous than those of animals; they comprise between thirty and forty different kinds, and not far from a hundred specimens. There are several varieties of the same species. Among the owls we find the great owl, horned owl, and little owl; several varieties of the rapacious birds, the heron (see Fig. 8) and hawk being notable specimens, the small body, long wings, long, thin neck, sharp bill, tufted head are striking features. The articulations of the legs and the minutest features are shown. These are carved from red speckled porphyry. As a work of art it is incomparably superior to the remains of any existing tribes of Indians. The hawk is in the attitude of tearing a small bird to pieces. The sculpture is spirited and life-like, minute and delicate. The finer feathers are well represented. The eyes of this bird are composed of small pearls, inserted about half their depth in the stone. The swallow has an attitude which is char-

acteristic; the body is thrown forward, wings about to be extended, as if the bird was just ready to dash off on its swift flight. Another bird is wrought with admirable skill.

The cherry bird is represented by three specimens; nothing can exceed the life-like expression of these. Several bird-pipes seem to be unfinished. They lack the markings for the feathers and for the bills. The base and various parts of the figure exhibit fine striæ, resulting from rubbing or grinding. The general outline was secured by cutting with sharp instruments, the marks of which are plainly to be seen. "The specimens indicate that the work was done rapidly by an experienced hand; the freedom of the strokes could only result from long practice. The lines indicating the feathers, grooves of the beak and other more delicate features, are cut or graved at a single stroke; some pointed tool seems to have been used, as the marks are visible where it occasionally slipped. We may infer that the manufacture of pipes was a distinct trade among the Mound-builders."



Fig. 9.—Spotted Toad.

Sculptures of the toad are very truthful. See Fig. 9. The knotted, corrugated skin, folds and lines are clearly cut with some sort of a graver. The marks of the implement clipping out portions a fourth of an inch in length are distinct. The general surface appears to be covered with striæ, the result of rubbing. Some of the toads are also unfinished.

Two heads representing eagles are also very superior in point of finish, spirit and truthfulness. The peculiar defiant expression of the king of birds is admirably preserved. Expression in sculpture was evidently aimed at by the artist, and very successfully represented. The lugubrious expression of the mouths of the toads is said to be very amusing. The savage expression of the beasts of prey is also quite marked. The wild cat, cougar and otter are represented. These are exquisitely carved from a red granulated porphyry; strong jaws, short neck, whiskers, the shape of the hair around the head are minutely sculptured. The ears are also very natural. A very spirited representation of the

head of the elk is given; another of the wolf, several of the serpent; the beaver, the squirrel, the toucan and the Manitou are also represented. The human face is very finely represented. Four specimens were taken from one mound, mound No. 8 in Mound City. Each one of these specimens was different. It would seem as if the effort was to represent different tribal features in these faces. The hair, head dress, tattooing and painting are represented. The ears were perforated, and it is probable that they were ornamented with rings of copper. Fidelity to nature in the sculptures of human heads is such that they display not only the characteristic features of the ancient races, but their method of wearing the hair, style of the head dress, mode of adjusting their ornaments. A fillet of real pearls was displayed upon the head of one of these pipes, the drapery of the head dress having had a border of these precious stones. The use of pearls and precious stones for the eyes of the birds and for the head dresses of the human faces is noticeable, as it shows some skill in the lapidary's art.

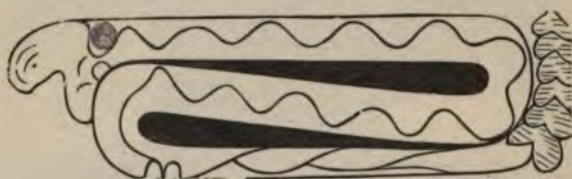


Fig. 10.—Tufted Serpent.

(2.) The relics from Clarke's Fort are next to be described. The coiled serpent is the most remarkable, as it seems to be the embodiment of a myth, and suggests a familiar symbol, which is common at the East. The suggestion that the various relics found upon the altar were the personal effects of deceased chiefs is controverted by the fact that the deposits are generally homogenous. Upon one altar pipes only; upon another a simple mass of galena; another has a quantity of pottery; another a collection of spear heads; another a layer of mica. Mica is common in the deposits of the mounds of Ohio. Beside the deposit in the shape of a crescent at Mound City and the scrolls of mica in the mound on the North Fork, the Grave Creek mound contained a hundred and fifty bits of mica, perforated as if they were ornaments on the article of dress. A large piece of mica, three feet across, was found in a mound near Circleville. Perforated tablets were also frequently found in the altar mounds. Whether these tablets were worn as badges or ornaments, or whether they were carried as implements for shaping the bow string, is uncertain. They are very common in the mounds of Ohio. Bracelets of copper, smoothly hammered and highly polished, are also common. The serpents from this enclos-

ure are most remarkable, as they were very skillfully wrought. Some of them seem to have been symbolic in shape. "It does not appear that these relics were designed for ornaments; on the contrary, the circumstances under which they were discovered render it likely that they had a superstitious origin." One tablet was found closely enveloped in sheets of copper. See Fig. 10. It was painted in different colors, but several of these were originally deposited in the mound.

III. We now turn to the ash pits. We have said that these belonged to a different horizon from the altar mounds and were probably the tokens of a different race. These points are to be considered as we proceed, and in order to bring them out the more clearly we shall speak first of the location of the ash pits; next consider the difference between these and the altars; third, of the character of the deposits contained in the pits; fourth, of the grade of art which was represented by the relics contained in them, and fifth, of the probable age of and race to which they should be ascribed.

(1.) Let us ask about the location. On this we have the testimony of several gentlemen who have visited the spot, including the writer among the number. The cemetery in which these ash pits were discovered is distant about one and a half miles southeast from Madisonville, and occupies the western extremity of an elevated plateau which overlooks the Little Miami river, and is about one hundred feet above the water line. Here is a well-wooded bluff which faces the river for about half a mile, but which is cut off from the background by a small stream called Whisky run. The locality has been a pottery field, as much pottery has been found here. There are no mounds in the cemetery, but there are a number on the edge of the bluff adjoining, and among them one or two earth circles with the ditch inside of the circle. It is also said there were about forty such earth-works in the region, being scattered about the townships of Columbia, Anderson and Spencer. Whether these are with the cemetery is a serious question. It will be remembered that in other localities mounds and earth-works are associated; but this is the only one in which a cemetery seems to figure as among the tokens. This would seem to indicate that the cemetery was in reality an exception and that it belonged to another period. It is said, to be sure, that the forest trees growing in the cemetery were many of them very large, measuring from ten to fifteen feet in circumference, and that this would prove the cemetery to have been of the pre-Columbian age. We grant it; but the same time maintain that it was comparatively modern.

(2.) A comparison between the altars and ash pits. It appears the burials were exceedingly rude, the bodies having been merely deposited in the ground without any covering—not even a stone coffin or a covering of bark, and much less a fire bed or altar

such as we have described. The only thing which at all resembled an altar was the pits into which the ashes and bones and debris seem to have been poured; but there were no traces of religious offerings or any such thing. It is worthy of note, however, that the bodies were almost without exception accompanied by fine vases, and sometimes by pipes and other choice relics. The bodies were for the most part placed in an horizontal shape, but they were also arranged in tiers one above the other, as if the cemetery had been long in use. The ash pits are supposed to have been dug before the bodies were deposited, and yet the pits and the graves may have been cotemporaneous, the one being the depository of the sacred possessions and the other of the bodies of the deceased.

(3.) As to the character of the ash pits: Perhaps this will be understood from a review of the explorations. This was begun under the Literary and Scientific Society of Madisonville, and the report was prepared by Chas. P. Low, though the explorations were conducted by Dr. C. L. Metz, who afterwards transferred the results of his labors to the Peabody Museum. When the exploration was begun the earth-works and mounds were the chief objects of interest, but during the progress of the work one of the laborers who was digging holes in the forest, came upon an ancient cemetery from which six hundred skeletons, accompanied by evidences of handiwork in the shape of flint, stone implements, pottery ware, charred matting and corn, tools and ornaments of bone, shell and copper, all indicating an industrious people who lived in large communities, and obtained their support by cultivating the soil, as well as by fishing and hunting. The cemetery is situated on a plateau overlooking the Little Miami river, eighty to one hundred feet above the river line. It is said to have contained about thirteen acres, and although the majority of the graves were found on an area of about four acres, Dr. Metz began a trench on the south edge of the plateau, running it north and south. About two feet below the surface he found an inverted vessel, resting on a skull, and soon afterward found others, making four vessels and four crania. The next day in a space $4\frac{1}{2}$ feet square, enlarging this excavation, other vessels and skulls were found. He finally came to a circular pit, $3\frac{1}{2}$ feet in diameter, and $4\frac{1}{2}$ feet deep, which contained fragments of twenty-two skeletons. The work was continued; graves were found, the skeletons being in a horizontal position; and ash pits with layers of ashes in the midst of the graves. The skeletons were placed in all directions, some of them at right angles with others; some were parallel, but the majority were recumbent. The ash pits contained leaf moulds, charred wood, ashes and animal remains, fragments of pottery, two of them contained matting, shelled corn and ear corn, with a layer of boulders six inches deep at the very bottom. In one pit a

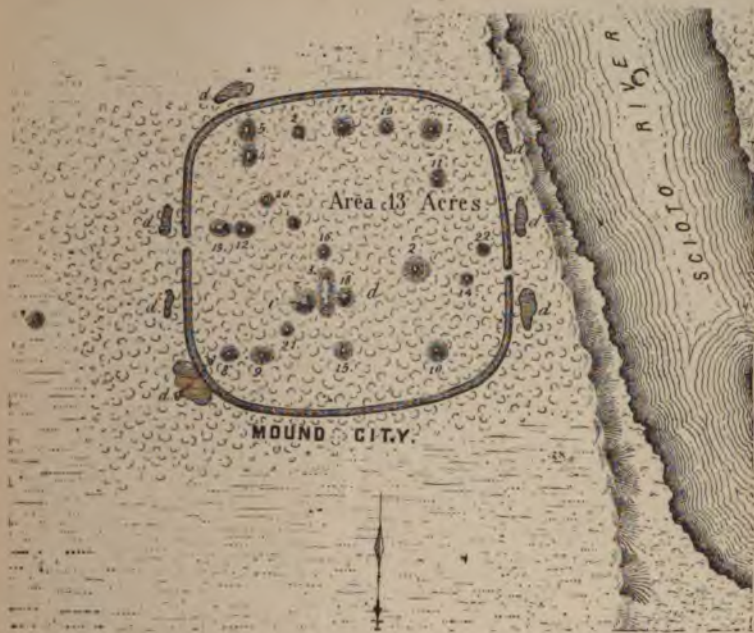


FIG. 18.—LOCATION OF THE ALTAR MOUNDS.



The light lines represent the sacred or village enclosures; the dark lines show Mound City and the adjoining circle; other lines show lodge and dance circles; the dots show the lookout and burial mounds.

FIG. 19—MAP OF THE WORKS IN THE SCIOTO VALLEY.

body was found doubled up, placed at the very bottom of the pit. In another pit there were two pieces of copper found on the bottom of the pit, and carbonized corn stalks and leaves. Other pits contained layers of white sand and white ashes, and with the ashes a great number of implements and relics. Some of the pits contained depressions at a depth of six feet or more, filled with white ashes and relics. These seem to have been pockets. More than one hundred pieces of copper were discovered in these pits, and many interesting relics.

About 1000 pits were discovered in the cemetery. It is supposed that they were made before the 600 bodies were buried, as

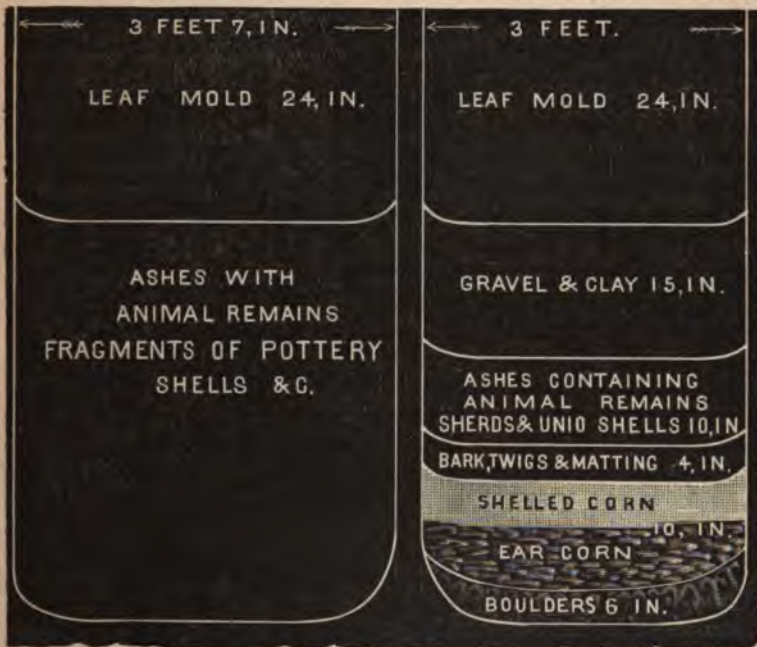


Fig. 11.—Ash Pits.

a large number of the skeletons were found over the pits; still there are some evidences that the cemetery was used at a time preceding the digging of some of the pits, as in a few instances skeletons were disturbed when the pit was first dug, the bones having been taken up and placed at one side. Most of the pits are said to have been filled with ashes in more or less defined layers. Throughout the whole mass of ashes and sand, from the top of the pit to the bottom, were bones of fishes, reptiles, birds and mammals, those of the larger mammals, such as the elk, deer and bear, being generally broken. With the bones were shells of various kinds. Many of the valves had a large circular piece cut out near the center. The pottery obtained from

the pits was generally broken. A large number of implements made of bones of deer and elk were found in the pits. These bones seem to have been used as scrapers of some kind, as they were worn through in the center, and had sharp edges, bevelled on the inside. Bone implements in the shape of awls, bone beads, small whistles or bird calls, made from the hollow bones of birds, flat pieces with tally notches on them, a few bone fish hooks, and two or three harpoon points, were found.

The ash pits represented in the cut (See Fig. 11) may be regarded as typical of the whole series. These pits were partially



Fig. 12.—Pottery Vessel with Salamander.

filled with leaf mould, giving the impression that the pits had either been left open or that the contents below had decayed and let the upper part sink below the surface. The layer of gravel above the animal remains in one pit and of ashes in the other would indicate the same thing, for it is probable that these layers were uppermost and that originally they were at the mouth of the pits near the surface. The animal remains and bones were just such as would naturally accumulate after a great feast or after a prolonged encampment. They were, however, such animals as only wild hunters would be likely to feed upon—deer, elk, raccoon, opossums, woodchucks, wild turkeys, etc. The fragments of pottery indicate that the people used pottery vessels for cooking purposes. Our impression is that these vessels were accidentally broken and the fragments gathered with the debris of the camp and thrown into the pits. The bark, twigs and matting in the third layer also give us the same impression. The discovery of a large amount of carbonized corn, several bushels of it in one pit, covered with bark, twigs and matting, which was also burned, and above the matting the usual mass of ashes containing animal bones, shells, and other things, is to be noticed, on account of its bearing on the age of the pits. The modern Indians were accustomed to make caches for their corn. The covering for these caches was generally of bark and matting. We imagine that the people who deposited these relics were a people who lived in wigwams covered with bark and mats, very similar to those of the Algonkins. The corn conveys the same impression. It must have been at a comparatively recent date

that this corn was deposited. No such deposits have been found among the altar mounds, though the people who built these mounds were even more given to agriculture than those of the ash pits. The boulders at the bottom of the pit are also significant. A common way of cooking among savages is to heat stones and place them in the vessel containing water until the water boiled. Here we have boulders bearing signs of fire, as if they had been used for the same purpose.

According to all accounts, a kitchen midden, several feet in thickness and of considerable extent, existed at the head of a small ravine. It contained the same character of material as that found in the pits. In it were two or three areas about 50 feet in diameter, in which neither ash pits nor skeletons were dis-



Fig. 15.—Pottery Vessel with Ears.

covered. The impression made by these areas is that they may have been council houses, and that after long residence the kitchen middens became places for the deposit of the refuse of the camps, and the pits the deposits of the sacred feasts and of religious offerings. This may have been at a time when there were no graves on the spot, the bodies having been placed in the ground subsequent to the time of the digging and filling of the pits, and probably by a different tribe. If a distinction were to be recognized between the graves and the pits and the kitchen middens, we should say that the graves were much more modern. Still they may have belonged all to one people. The ground which yielded the relics was only about four or five acres in extent. This was thoroughly explored. The burials were scarcely any of them lower down than two feet. The burials embraced all ages and classes, and remind us of the custom among the Indians of burying the personal possessions of the

individual with the body; pottery, beads and personal ornaments with the bodies of children; pipes, spear heads, tomahawks and other weapons with the men, and pottery vessels and ornaments with the bodies of the women.

Such is the general description of the cemetery and the ash pits. Our readers will realize from it that there was a great



Fig. 14.—Limestone Pipe.

contrast between these and the altar mounds, and will conclude with us that two very different periods were represented, the one being the period of the Mound-builders proper and the other the period of the wild or red Indian. We think that the same impression will be gained from a study of the relics taken from the ash pits.

IV. We now turn to the description of the relics from the graves and ash pits. It will be noticed that these

relics are much ruder than those taken from the altar mounds, though they have the same general character, being mainly in the shape of pipes, pottery and various copper relics.

(1.) We begin with the pottery, especially that taken from the graves in the cemetery. This pottery seems to have been well finished and contains many symmetrical-shaped vessels. There is, however, a lack of ornamentation, and so we should place it in a lower grade from that which prevailed in the altars. The abundance of these vessels, especially of whole vessels, is an-



Fig. 15.—Sandstone Pipe.

other very remarkable circumstance. It will be remembered that the pottery of the altar mounds was all broken, very few of the vessels being found complete. Here, however, the broken vessels seem to have been the exception. The pottery is all of one general type. It abounds with vessels which are made with ears on the outside, (see Fig. 13) the mouth of the vessel being drawn in and a wide flange being thrown out, the handle

being merely a band or strip passing from the flange to the bowl. The vessels were generally placed near the head of the skeleton; sometimes a stone pipe would be found in the hand. One vessel had a salamander moulded on the outside. See Fig. 12. This was found between two skulls; though the occiput of the upper skeleton, having been placed upon the vessel, had crushed it. Another vessel with a salamander was found near the feet of a skeleton. About 80 copper beads, 2 inches in length, rolled in length, rolled and twisted into a spiral spring, were found strung along the spinal column of another skeleton. These were in graves. In a pit were found two rolls of copper, five bone beads, a stone skin-dresser, a sandstone pipe, an ungrooved axe, and several bone relics. Two pipes and a large number of stone and bone relics were taken from another pit. A semi-circular piece of copper, through which a large root had grown, was taken from another.

(2.) We next take up the pipes. There were many of these found among the graves and in the ash pits, all wrought from stone, either sandstone, limestone or catlinite. None of the pipes were made from pottery. Some of them are wrought into shape so as to be imitative of some animal, either a wolf or pan-

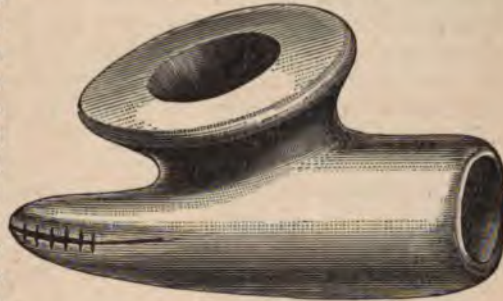


Fig. 16.—Callinite Pipe.



Fig. 17.—Callinite Pipe.

ther, or a bird. Some of them are fashioned into round nodules, but have figures of birds inscribed upon the outside in a rude way. Some are mere tubes, with a flat bowl raised at one end above the tube. All were designed to be used with a stem, the hole for the insertion of the stem showing that some large-sized wooden mouth-piece had been used, probably just such a mouth-piece as was common among the later Indians. Not a single

pipe of the genuine Mound-builders' pattern was found, either in the graves or the ash pits.

(3.) Association of skeletons with pipes and pottery. The majority of these were in the graves, above the pits and near the surface, the vessels being near the head of the buried skeleton, the pipes near the vessels. This is seen by the following descriptions: In one case four crania and four vessels and several flint relics were found crowded into a space of less than four feet; in another place were seven skeletons, several vessels, and the pipe represented in Fig. 14; in another place seven crania were uncovered, and with them three broken vessels and the pipe represented in Fig. 15; in still another there were five skeletons and the pipe of red catlinite in the shape of a tube and flat bowl (see Fig. 16); another find consisted of shells, ashes, pottery and a stone



Fig. 20.—Limestone Pipe.



Fig. 21.—Limestone Pipe.

pipe. The skeletons lying horizontally generally had pottery vessels near the head. In one case a pottery vessel was found near the head and a jasper spear-head in the hand of a skeleton. The pipe represented in Fig. 17 was found with a pottery vessel near the head of a skeleton. Two skeletons lay across the feet, but no relics were with them. A limestone pipe (see Fig. 21) was found near the head of a large skeleton, and on the other side of the head eight small deer-horn tips, several arrow-points and a bone cylinder. One day seven skeletons were found, two of them children, and with one of the children the two-story pottery vessel, and on another day seven children. With these children was a pottery vessel, and in the vessel a piece of shell inscribed with dots and cut into notches. Soon after this the ash pits which contained shelled corn and ear corn were opened. These ash pits contained the bones of animals such as had been used for food—deer, elk, raccoon, opossum, mink, wood-chuck, beaver and turkey. In another ash pit was a pipe representing

a bear on its haunches. These finds were all remarkable for one thing—they were full of evidences of a peaceable burial, and in fact of a peaceable and industrial life. Very few weapons of war were found—pipes, domestic tools, food and the vessels for cooking the same—no coats-of-mail, no military badges, no crushed or wounded skulls, but many skeletons of children, women and old men.



Fig. 22.—Inscribed Stone.

(4.) There are several pipes which remain to be described, These have the same shape as those already given, but they differ in having figures sketched on the surface. See Figs. 14, 17, 20, and compare with 22.* These pipes are worthy of study, as they represent the art of the people. They seem to have been scattered indiscriminately among the graves and ash pits, and were the most curious of all the relics. One such pipe was found unaccompanied by a skeleton or by any vessel. This is

*We are indebted to the Society of Natural History of Cincinnati for the use of the cuts, and are happy to call attention to the collection of relics in the museum of that Society. A full report of the exploration of the Madisonville cemetery may be found in the third volume of the journal published by the Society

a rare case, pipes generally being found near recumbent skeletons and frequently associated with pottery vessels. A finely finished pipe, made of dark red catlinite, was found with five skeletons in a horizontal position. This pipe is a rude imitation of an animal head. Another pipe was taken from an ash pit. It had a peculiar form and was made of limestone. Another interesting pipe was found at the head of a skeleton which was horizontal, fifteen inches below the surface. This pipe is made of limestone, well finished, and carved to represent the head of the panther or wild cat. A copper relic in the shape of a two-barred cross was found near the neck of the same skeleton.

(4.) Shell ornaments and copper rings. One peculiarity of the cemetery "finds" is that, while the articles are very rude, they are made of different materials—copper, shell, bone, horn, pot-



Fig. 23.—Limestone Pipe.



Fig. 27.—Limestone Pipe.

tery, limestone, sandstone, catlinite, shell, but no articles of gold or silver; no lead or mica, or obsidian; no quartz or precious stones, or pearls. There were beads and pendants, but these were made from shell and bone, never from pearl. The following relics were found with the skeleton of a female: Two perforated shell disks, about the size of a silver dollar, and a pendant also made of shell, near the neck. A stone flesher was found with this skeleton. A war arrow-point was also found in one of the dorsal vertebræ of a skeleton. This is a rare case, for very few of the skeletons show any signs of wounds received in battle. Copper rings, finger rings, have been mentioned by Prof. Putnam as a rare exception, only one case of the kind being mentioned. The rings were still on the finger bones. Agricultural tools made from antlers are common in the ash pits. They are "digging" implements. These digging implements must not be confounded with the flint hoes or spades common among

the agricultural races, for they are mere picks made from antlers and are very rude. So, too, the copper rings must not be confounded with the "copper spoons," for no spoons have been found in the cemetery.

(5.) An inscribed stone was found among the ash pits. See Fig. 22. It was a piece of limestone covered with very rude markings, some of them resembling the track of a turkey, others the heads of serpents, others the teeth of some animal, all very rude and apparently without significance, no symbolism being apparent.

V. We now come to another point, the comparison of the relics from the altar mounds with those from the ash pits. We have already shown that they were much superior as works of art and indicate a much higher grade of culture. This is in accordance with the old theory, first advanced by Messrs. Squier and Davis, that the Mound-builders were superior to the Indians, a theory which we see no reason for rejecting, though we should carefully guard it from perversion. This

theory does not necessarily imply that the Mound-builders were a civilized people, nor does it even hold that they belonged to a different stock from the modern Indians. The difference in the grade of culture is the only point which we care to make. The differences



Fig. 24.—Copper Bell.

between the altar pipes and those from the ash pits are worthy of especial attention. These differences are the same as may be recognized between Mound-builders' pipes and those of the later Indians. They are as follows: 1st, the altar pipes were all in one piece, and would be called simple relics; the pipes from the ash pits, as well as Indian pipes, are generally compound relics—that is, they consist of two pieces, a bowl and a stem. 2d, the altar pipes were generally of the "monitor" shape; the base is curved, the mouth-piece flat, bowl round or cylindrical, and the whole carved into some well-wrought figure. The pipes from the ash pits have cylinder shapes, among them the following: *a*, the tube with the bowl at the end on horizontal line; *b*, the cylinder with the hole for the stem in the side of the bowl; *c*, the round nodule; *d*, the irregular effigy pipe. 3d, the altar pipes were symbolic, either with crescents and circles embodied in them or with animal effigies, which may have been totems. The pipes from the ash pits contain no symbols. If the carved heads were totems, they were very rude, and can hardly be called symbolic pipes. The flat circle which rests upon the tube of certain pipes might be called symbolic, but on these pipes this flat bowl is at various angles and seems to have lost its significance as a symbol altogether. 4th, the altar pipes never have straight sides or angular corners, but every part is well rounded and finely finished. The pipes from the ash pits,

like many Indian pipes, have sides which look as if they had been sawed out, but are otherwise very rude. 5th, the two classes of pipes are in great contrast in regard to workmanship. The altar pipes have whole figures finished in the round, the birds standing out in full shape, the beasts generally with all parts complete, though sometimes the head and shoulders only are represented. In the ash pits no such pipes were discovered. Here the animal figures are merely heads, and they are very rudely represented—in one a simple gash in the side of the tube to imitate the mouth, in another a couple of projections to represent the ears, but no whole figures.



Fig. 23.—Pottery Vase.

altar mounds rarely have the cylinder shape. This distinction does not obtain so thoroughly elsewhere as here, and yet it would seem as if the pipes of the Mound-builders and of the Indians could be distinguished in this way.

VI. We now call attention to another class of relics, namely the class which has the appearance of being imitations of modern historic objects. This is an important point. We have all along maintained that the ash pits were among the latest or most recent of the prehistoric tokens. We now are to ask the question whether some of them were not actually subsequent to the historic date. Let us first state that there was after the time of the discovery by Columbus at least two hundred years before the interior was visited to any extent by white men, and that another hundred years passed before the interior began to be settled. During this time many missionaries labored among the native tribes. As to the tribes which occupied Southern Ohio, it is supposed that the Eries were the first, the Shawnees the

able in the finish of the two classes of relics. In the first are lines which imitate feathers, wings and feet, and even the roundness of the feet. In the latter are no such lines, but everything is rude and wrought in the easiest way possible.

We give a series of cuts to show the different shapes of the pipes. See Figs. 8, 9, 15, 16. It will be noticed that the pipes from the ash pits are nearly all cylinders—some of them horizontal, others perpendicular—but that the pipes from

second, the Delawares the third, and the Wyandottes the fourth, all of them, however, wild Indians. Now which of these tribes made this particular spot their home we may not determine, but our opinion is that perhaps both the Shawnees and Delawares may be credited with the relics of which we are about to speak. We take up the different relics as they were discovered and place these modern-looking specimens by themselves, and ask the question, How came the semblances, except that there was a contact with the white man somewhere? First, let us take up the sleigh-bell. See Fig. 24. This was found in the grave of a little child. It was made of a single piece of copper folded together in the shape of a little hawk-bell, and furnished with a rude handle. There was inside of it a bit of copper about as big as a pea. The bell had a musical tinkle to it. It was evidently a toy, and was buried with the child as one of its possessions. Next to this is the vase represented in Fig. 25. This vase is very rude, but it is in imitation of a modern vase, or possibly of the chalice. Its upper part is, to be sure, in the shape of a common cooking vessel, and retains the ear and rim, but the base is that of a modern goblet or chalice. It suggests a contact with the white man. The third specimen differs from the others. It is in the shape of a heavy, rude, coarse comb. It was made from elk-horn. It was found in an ash pit. It shows the domestic habits of the people, and reminds us of their wild life. The fourth relic is one which again reminds us of the missionary who is supposed to have been the first white man who gave a modern pattern to an Indian relic. This relic is in the shape of a double-barred cross. It is of copper, and has an appearance as if it had been used as a crucifix. It may have belonged to some devout female, who was too poor to own a silver crucifix and therefore manufactured one from copper. This cross was found in a grave in contact with a body and associated with the panther pipe which has been mentioned above. The resemblance to the modern catechumen's cross is the strange thing about it. The next is a pipe with the image of the spread eagle sketched on the outside. See Fig. 26. This pipe was not found in a pit but on the surface, having been rooted up by hogs which were in the lot. It is a sandstone pipe, and is quite rude, but the eagle reminds one of the spread eagle, which is purely modern.



Fig. 26.—Eagle Pipe.

There are relics which have a modern look. One is represented in Fig. 27. It is a limestone pipe picked up on the surface. This pipe has straight sides and beveled angles, and reminds us

of some remarkable relics which purport to come from the State of Michigan, but have been regarded as fraudulent relics. It is possible that some wandering tribe had dropped this specimen here and that the same tribe wrought the Michigan relics. We have spoken of the iron axe found between two graves in this cemetery. This axe must have been made by a white man, and proves that some of the relics at least were deposited after the advent of the whites.

This subject of modern-looking relics may give rise to discussion, for there seems to be a diversity of opinion on it. We here quote from different authors. Prof. Putnam found a relic resembling the cross in Tennessee, but he says of it: "The cross like form might give rise to the question of its derivation. Had any article of European make, such as glass beads or brass buttons, been found, I should consider the form of the ornament the result of contact with the early missionaries. But from the absence of articles denoting such contact, I think it must be placed in the same category as the well-known cross at Palenque." Mr. C. F. Low also says of the relics in the cemetery: "Nothing has ever been found *in situ* which shows any evidence of association with European races." Prof. J. T. Short compares the relics to those of other aborigines, and says: "As regards the races to which the people belonged, whether to the stone grave people, as the crania would indicate, or whether they were the last remnants of the powerful nation who built Fort Ancient and other great works—these and similar inquiries remain unanswered." Still, we would say that the various relics, the copper sleigh-bells, the catlinite pipes, and the two-barred cross, were all found *in situ*, and they seem to indicate a contact with the whites.

It is to be remembered the cemetery was near mounds, that large trees were growing on this ground, and that some of the bodies were found underneath the very roots of these trees, showing that at least some of the burials must have been many years ago, probably before even the time of the discovery. If this is the case, then we have a history contained in the cemetery which covers three or four hundred years, and back of the cemetery another history in the altar mounds, which cover several centuries more, and so in the two classes of remains may find a record for perhaps a thousand years.

Correspondence.

CANADIAN RELICS.

Editor American Antiquarian.

In reply to yours of the 20th of September, I may state that Prof. Boyle, of the Canadian Institute, is having some of my specimens of relics and pottery (fragments) photographed, and I have written to him for some of the most interesting ones to forward to you.*

Enclosed is a water-color sketch of a common form of clay pipe found occasionally here. Some ascribe this form to the Hurons, but we are east of the Huron country, and this type probably belonged to some tribe that the Hurons displaced, probably the Hochelagans, as you term them. There is no doubt that the Hurons displaced some tribe, as evinced by the remains. We find relics that can be ascribed to the Hurons and others which are totally distinct. For example, the pottery markings on the fragments found on village sites resemble very closely the markings described by Dawson in "Fossil Man," pp. 72, 75, 77, 87, 91; also pipes resembling very closely the top figure on page 94 in same volume. This, however, may be a modified Huron form. These pottery and pipe markings resemble more the Hochelagan style, over two hundred miles east, than the Huron style, fifty miles west, on the west side of Lake Simcoe. These markings are common to different sites in this part. A proof of the great age of these village sites is that, to my personal knowledge, no relics showing traces of contact with white men have been found on them, showing that they were occupied by the very earliest Hurons, or a distinct tribe. The evidence strongly favors a distinct tribe, both as to dissimilarity of style and types of ornaments, etc., and of burials. I do not know of any ossuaries, the favorite Huron way of burial, within fifty miles. The burials here consist of long rows of single graves, running in no particular direction, and generally on the slope of a hill or at the bottom, while the ossuaries to the west of Lake Simcoe were placed at the tops of hills. These single graves contain no relics, as far as have been discovered as yet, and are occupied by skeletons of a smaller size, placed in no particular position, except lying on either side.

*The Editor begs leave to state that photographs and engravings for two interesting pipes were forwarded, but by some means were lost. Re-productions of these will, however, be furnished in our next number.

Prof. Boyle and myself opened a number this summer, but the skeletons were so decayed that the skulls fell to pieces on exposure, and we could only save two. So, without undue haste, I think the territory of the Hochelagans may be extended as far as this.

This country lies to the west of Balsam Lake, a large lake seventeen miles east of Lake Simcoe, and being one of a chain of lakes, etc., which was the ancient interior canoe highway between Georgian Bay, Huron County, and Montreal. This lake is not connected with Lake Simcoe except by an ancient trail, traversed by the Jesuits and voyageurs, and also mentioned by Champlain. This trail is now enlarged to a government road.

The second sketch is of a panther pipe, found eighteen years ago at Mud Lake, seventeen miles northwest from here. It is undoubtedly genuine, and is of the same pattern as the bear pipe and monkey pipes in the Candanian Institute. It is well finished, but shows rough usage. As regards detail: It has two stem holes, the less above the greater; the eyes are bored through and the mouth marked by an indentation at each side. There is also a deep indentation on each side of the neck. The ears are marked by two slight but well defined protuberances. The shape of the occipit, and size and squareness of the jaws, denote a regular feline head. The claws are defined, but the hind claws show wear as of being held constantly in the hand during use. The forelegs are not divided from each other, nor are the hind legs, though they are in their natural position, and not bent the wrong way, like the bear pipe. The tail is not represented, unless we take that part of the pipe which encircles the perforation behind the hind legs, which was probably used as a means of suspension to the owner's belt or neck. The mouth of the bowl is at the shoulders, and the two stem holes farther down the back. Material: steatite of a mottled green color. The position of the bowl and the stem hole or holes being the same in the bear pipe, panther pipe, lynx pipe found in Muskoka, all from this district, and the monkey pipe found west of Toronto, show that they all belonged to one people, and were regular types of animal and bird pipe sculpture, which we may call totem pipes, being of a different type of pipe sculpture to that of the Mound-builders, though of equal finish and workmanship and as true to nature, is another proof that the Indians and Mound-builders were different nations, and that their types of art were different*

Sir Wm. Dawson says† the Hochelagans had pipes of steatite or soapstone, but none of elaborate form, in which he must be either mistaken or misinformed, for if these are not elaborate forms, what are? And we cannot ascribe these to the Hurons,

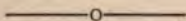
*See American Antiquarian, September, 1890, page 267.

†*ibid.*, page 266.

because no pipes like them have been found in their ossuaries or on their extensive village sites. I agree with you that the Indians and Mound-builders were different races, as evinced by the differences in their respective remains, but why don't you compare the copper axes, spears and knives of the Alleghans to the copper axes, spears and knives of the Hochelagans, instead of to the stone knives, etc.* We have in this country some very fair specimens of the above, whether made by the Hurons or Hochelagans, or dropped by the Iroquois on their forays, or even by the Alleghans themselves, we cannot generally determine. Some of the copper knives are regarded with suspicion by some, who claim they are of modern form, but if of modern form they must have been made in modern times, which is disproved by the fact that there are no records, either of the Jesuits, voyageurs or others, which show that the Indians north of the lakes worked copper, from the earliest times down. If it be admitted that these knives are of modern form, therefore, being made in modern times, it proves that the Jesuits, the most observant of all classes or creeds, have failed to observe and record that the natives worked in metals. This cannot be admitted. The form in question is a modification of the semi-lunar form as observed in slate knives found in Ontario, and also mentioned by Abbott in "Primitive Industry."

G. E. LAIDLAW.

The Fort, Victoria Road P. O., Ontario.



THE EFFIGY MOUNDS OF BUFFALO LAKE, MARQUETTE COUNTY, WISCONSIN.

Editor American Antiquarian:

The valley of the Fox River—for unknown centuries a favorite residence of Indian tribes—seems to have been equally well known to their predecessors, the Mound-builders, judging from the numerous tumuli and other earth-works which are found scattered along its banks from Green Bay to the Wisconsin portage. Among these evidences of antiquity the most interesting are the effigy mounds, which form an integral part of nearly every group, and are also met with isolated on bluffs and other sites overlooking the waters of the river. Strange to say, these various tokens of unknown ages, though obvious enough to the modern explorer and settler, escaped the eyes of the Indians referred to, of the Frenchmen of the seventeenth and eighteenth centuries, and of the succeeding British and Ameri-

*Ibid, page 261.

cans of the eighteen and early part of the nineteenth centuries; or, rather, these men seem to have seen them, but as features of the landscape, as swells of the ground, which conveyed no significance. It was not until the time of Maj. Long, in 1817, that artificial earth-works in Wisconsin were noticed and mentioned, and not till 1836 that the further fact was observed by Lapham that some of them were evidently made to represent animate objects. Not the least interesting part of Fox River is that expansion of it known now as Buffalo Lake, situated in the southern half of Marquette County. It seems as if Mr. Lapham, in his official explorations of 1850-1, did not meet with any effigy mounds on its shores. His expression reads: "The mounds examined by me along the Apuchwa and Buffalo Lakes were entirely of the conical form or burial mounds;" but since his time it has become well known that effigies abound at various points on or near them.

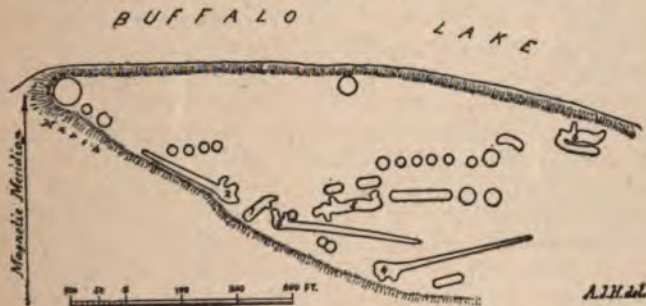
It was my fortune in 1886 and 1887 to spend some time in this valley, and I improved the opportunity by scouring the country on both sides of the stream in search of traces of its presumed aboriginal inhabitants. Around Buffalo Lake, in addition to the tumuli of Lapham, many effigies were found. Some of them were in a good state of preservation, almost as they were left by their makers' hands; while others were so defaced by the plow-share of the (presumably) more civilized race now occupying the region as to be barely distinguishable in their true character. Many were already well known to the residents of the adjoining towns and occupants of the farms; others were hidden in thick woods or dense brush, and only known hitherto, probably, to the solitary hunter, surveyor, or explorer. They all, however, had to equally submit their outlines to the plain tests of the compass and tape-line.

One of the finest of the groups is on the southwest quarter of the southwest quarter of section 13, town 15, range 9, on the south side of Buffalo Lake, and was surveyed May 31, 1886. These mounds are located on a point, the lake being to the north of them and a spring branch to the southwest. The site, which is about twelve feet above the lake, is used as a camping place by the summer tourists and also as picnic grounds, and it is well adapted to such purposes. The group seems to have no special arrangement, the mounds being located in rather a haphazard way, and consists of thirty-one mounds of several classes, viz.: five animals, twenty round mounds, the largest of which is 50 feet in diameter and 7 feet high, one curved embankment, four straight embankments, and one nondescript (Fig. 1), which may probably be an unfinished animal.

Fig. 2 is an animal with a long tail. Its length, from the end of the nose to the extremity of the tail, is $193\frac{1}{2}$ feet, and the greatest elevation of the body is 5 feet above the general level of the natural surface.

Fig. 3 is an animal with a slightly curved tail. Its extreme length in an air line is 275 feet, and the highest point of the body is $3\frac{1}{2}$ feet in elevation. Its hind leg is interlocked with the base of a round mound, the latter having been built after the animal was completed, which is plainly shown by the manner in which the two are connected together.

Fig. 4 is somewhat similar in outline to No. 2. Its greatest length, following the body and tail in an air line, is 292 feet, and it is $4\frac{1}{2}$ feet in height at the highest point on the body.



Effigy Mounds at Buffalo Lake, Wisconsin.

Fig. 5 is a nondescript animal of unknown identity. Its extreme length, along the body in an air line, is $123\frac{1}{2}$ feet, and it is 3 feet in height.

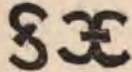
Fig. 6 probably represents a goat, or at least belongs to the goat family, although the horn is abnormally long and thick. Its length, from the tip of the nose to the end of the hind leg, is 92 feet, and the body is $1\frac{1}{2}$ feet in height. This last described animal is apparently the first and only representative of the goat family in a bas-relief that has been handed down to us by the Mound-builders, and in this regard is a very important find. Perhaps it may represent one of the post-glacial family, thus adding another link to the history of "Man and Mammoth." If this surmise should prove to be correct, however, it would rather spoil what may be called the "squaw theory," *i. e.*, the assumption that the Indians built the mounds.

T. H. LEWIS.

St. Paul, Minn., December, 1890.

SUN AND FIRE SYMBOLISM.

There is a phase of sun and fire symbolism which seems hitherto to have received but little attention, viz., the presence of such symbols in crests or in the coats-of-arms of many of the oldest families and landed gentry of the British Isles. We find them in the greatest numbers in the armorial bearings of our Scottish families and those belonging to the most northern counties of England; probably for the same reason that they are most numerous on objects which have been found in the northern portions of Scandinavia. Some of the emblems of the sun and of the suastika as a fire symbol and the wheel are in use in some countries to this day as a preservative against fire. A type of fire symbol exists in some parts of England at our very doors. In Gloucestershire and Herefordshire—possibly also in some of the other southwestern counties of England—it is not an uncommon circumstance to see on the external walls of some of the older houses one or two pieces of iron in this form:



And sometimes thus:



It seems evident that they could not have added much support to the building, since they bolted on to it at one point only—the center. A most interesting explanation of them was given a few years ago by an old family servant who died about five years ago; his age went with the century. He was a Gloucestershire man, and on being asked the reason of the S form of these irons, he replied that "they were made thus S in order to protect the house from fire, as well as from falling down." In the little village of Kingstone, in Herefordshire, it is still the custom of the people on the eve of May-day to take two short pieces of wood and nail them in this form + over the door of a house or stable, removing the one of the previous year. On inquiry why this was done, the reply was, "To scare the witches or the evil spirits away."

H. G. M. A.

Editorial.

THE ARYANS AND THE INDIANS.

One of the strangest revolutions in the matter of opinion that has ever taken place among scholars is the one which has just appeared among the archæologists and ethnologists of Europe. This change has relation to the origin of the Aryans. For many years it has been an apparently established theory that the Aryans were a people who originally dwelt in the plains of Iran, in Central Asia. From this center they were supposed to have spread first to the east, next to the west, thus making the great Aryan or Indo-European race, which may be considered the most civilized race upon the earth. The great advocate of this opinion was the celebrated Max Müller, the Sanskrit scholar, though Sir William Jones may be said to have originated the theory, for he first called the attention of the world to the resemblances of the Sanskrit to the European tongues. According to this theory there were only three original languages—the Aryan, the Turanian and the Semitic, the Turanian being the language of the northern races of Asia and the earliest languages of Europe, such as the Basque and the Iberian, but the Aryan being of southern and later origin. The theory, to be sure, did not quite fix the limits of the Turanian or exactly define its characteristics, nor could it show the relation of either the Turanian to those other large groups of languages found in Africa, in Polynesia, Melanesia, North and South America, and elsewhere. The theory also left the prehistoric races of Europe altogether out of the account, the science of prehistoric archæology at that time being considered hardly worth noticing among the linguistic and oriental scholars. Still, the European ethnologists seemed to be satisfied with the classification, and wrote many books showing how the various languages, such as the Celtic, Saxon, Teutonic, the Slavic, were all connected, and how they had branched off from the old Aryan before the time of separation or migration to the west. The same was true also of the mythologists. Prodigious efforts were made to show the resemblances between the Hindu, the Persian, the Greek, the German, and the Scandinavian myths, as the names of the divinities were supposed to signify the same thing, and the offices of these divinities being similar in all parts of the globe.

All this, however, is changed. "The work of the last ten years has been destructive. The work of the previous half cen-

ture has been revised. Baseless theories have been demolished and the ground cleared for the erection of more solid structures." "While science has been specialized, it has been shown that the correlation of the 'prehistoric sciences' is as intimate as the correlation of the physical sciences. Hasty philological deductions require to be systematically checked by the conclusions of prehistoric archæology, craniology, anthropology, geology and common sense."* The result is indeed a startling one. The "prehistorics," it appears, are no longer to be left to themselves, but are suddenly brought into the midst of the "linguists," and the whole line of tokens, from the "paleolithics" of the gravel beds to the "neolithics" of the long barrows and the short barrows, and from these to the lake dwellings and the rude stone monuments, are all to be studied by the united company, and archæology is exalted to a rank alongside of all the older and more thoroughly understood sciences. The Aryans are no longer intruded races, but are to the "manor born." The prehistoric tokens, which so long remained untenanted and silent, are now "peopled" and the division and identification goes on apparently with very great confidence, and each prehistoric class of tokens is assigned to its own peculiar branch of the same great Aryan race, the survivors being now well known.

Linguistically considered, the prehistoric races are about as silent as they ever were, and archæologically speaking the different "ages" still stand as fixed and firm as ever; the distinction between the gravel beds, the cave contents, the kitchen middens, etc., remains undisturbed, notwithstanding the efforts to make the relics and the skulls speak the same language as that now heard among the living races.

There are also a few discrepancies between the advocates of the new theory, as Dr. Isaac Taylor considers the Aryans allied to the Ugric, while Gerald Rendall thinks the Aryan center was in Scandinavia, or about the Baltic Sea. There seems to be also a variety of opinion as to the color of the *complexion* and *hair* of these prehistoric races. Dr. Huxley rings the changes on the long-headed blondes and the short-headed brunettes, and seems to be inclined to say "I told you so" in reference to the Neanderthal skull itself, while others are less confident and not quite ready to say what kind of a skin actually covered this or the Constadt and what the Cromagnon skull. Still, as the Swedes are fair-haired and long-headed, and there are people in France who are dark-haired and broad-headed, it must be that the "dolicho-cephalics" were Swedes and the "brachy-cephalics" were French or some other southern race.

Not the shadow of a doubt. It has all been made plain. The division occurred in the prehistoric age. The history of the

*"The Origin of the Aryans," by Dr. Isaac Taylor, closing sentence.

Aryans is to be read in the prehistoric tokens. The key to the entire problem is now in the hands of the archæologists. Such is the revolution that has come in our day.

What will the effect be on American archæology? This is the question which interests us. Opinions seem to go in waves. People must follow the fashion.

Quatrefages holds that America and the other continents were formerly connected, and that the peopling of America was from Europe or from Asia. "Man is a cosmopolite, while the highly developed and specialized animals are more and more confined to the continents or to even more limited districts. While some of the ruminants inhabit the north of both continents, and the reindeer and the caribou belong to the same species as do the bison, the Uroch, the Nargali and the Big Horn, none of these animals are found in the warm regions." "There is not a cosmopolite after the manner of man." "Like Polynesia, America was peopled from the old world." Hæckel maintained that the original starting place of the human race was from a center to the south of Asia, the original home of the *Quadruman*i. Pritchard held that the American races were branches of the same great stock which originally peopled Asia, Africa and Europe. Mr. John Evans said in his address before the British Association "that it will be for the benefit of science that speculations as to the origin and home of the Aryan family are rife; but it will still more effectually conduce to our eventual knowledge if it be consistently borne in mind that they are only speculations."

So, too, among our American linguists it has been a strong conviction that there was a resemblance between some of the North American languages and those formerly prevalent in Europe—some of them resembling the Basque, others resembling even the Aryan itself. Among the archæologists also the attempt has been made to trace resemblances between the earth works and the monuments of the two continents, the serpent-worship and the sun-worship being accounted for by considering them borrowed cults, the symbolism in its detail being very similar.

According to some ethnologists, the migration of races was from different directions, the supposition being that there were different races in America, and that these races came from different continents—some from the north of Europe, some from the north of Asia, some from the south of Asia, by the way of the Polynesian Islands, and possibly some from the coast of Africa, as the portraits, symbols, idols and other tokens remind us of these nationalities. The ethnologists were seeking for the connecting links, hoping to solve the problem in this way.

The drift of opinion is now so strong in favor of the autochthonous character of the races of each of the continents that the cosmopolitan theory [may be unpopular. It will be the

greatest heresy to maintain that there ever was any contact between the continents. If there was any contact, it was long ago, during the distant geological ages. No modern migrations. No incursions of wild Indians into the territory of the original Mound-builders. No stray visitors from distant shores. No borrowed cultus. No symbolism introduced from other lands, Africa, Asia, Europe and America. Each had its own unvarying development. "Aryans and Indians are the autochthons of the two continents."

Of course, with the new theory, it will not be expected that the Europeans will now undertake to trace any connection between the prehistoric races of this continent and the older continent, for they will be satisfied with their own explanation and have no need of showing any migrations to other lands. The Eskimos, to be sure, have been traced to the west, and the supposition has been that they originally passed across Behring Straits, and are possibly the survivors of the old Cave-dwellers of Europe. But the Eskimos are the survivors of the paleolithic people of the gravel beds; the wild Indians are the survivors of the cultivated Mound-builders; the Apaches or Navajoes the survivors of the Cliff-dwellers; the Digger Indians the survivors of the people who left their altars and the images beneath the lava beds of California and Arizona; the Mexicans, speaking the Spanish language, are the survivors of the old Nahua races. Therefore, all these varied works, mounds, earth structures, rock built houses, pyramids and palaces, are to be ascribed to one autochthonous race, which only developed separately and never had any contact with any other continent.

The early civilization which was supposed to have come from the historic East is now the result of a growth which appeared in prehistoric times. So, too, the later savagery, which was supposed to have come down upon the early Mound-builders from some northern clime, are only the survivors of the people who always dwelt here and whom we now call Indians.

The Aryans certainly grew out of the caves and developed into the Lake-dwellers and megalithic tomb-builders, and reached a high state of civilization, perhaps unaided; while the Indians mysteriously went the other way—degenerated from the higher to the lower, from the partially-civilized to the savage. But the same theory of the autochthonous origin will account for both. The Aryans and the Indians prove that the culture home must have been in the very midst of the prehistoric works. So one wave goes up and the other goes down, but the sea beats on.

COMPARATIVE ART—HISTORIC AND PREHISTORIC

INTRODUCTION.*

Under this head a certain portion of THE AMERICAN ANTIQUARIAN will be set aside from time to time for the consideration of the problems suggested by the study of the monuments of art, both prehistoric and historic, as objects of art, as distinguished from the monuments which have only archæological interest and do not come within the range of the history of the fine arts. Archæology and art are indeed terms which express many similar things, and it is impossible to draw a line which will sharply mark the distinction between them; but students of archæology are apt to overlook the actual art value of their subject, and in devoting their attention to the antiquarian side ignore its artistic relationship. It is not proposed to reconcile these two positions, nor even to point out where the student of archæology at times refuses to enter the field already occupied by the student of the history of art, but by chronicling the latest developments in the latter department to put into more accessible form the results of modern research in one of the most fascinating and interesting departments of art history.

Archæology chiefly concerning itself with the elementary problems of art, it naturally follows that in an antiquarian magazine special attention should be given to all questions relating to the origin of art forms, to the beginning of artistic ideas, to the evolution of artistic conceptions and combinations, and it will be therefore matters connected with this phase of art history that will here receive especial attention. It should be remembered, however, that the history of art is almost co-existent with the history of humanity. The most elementary stages are to be found among the rudest people, and the artistic conception once formed—no matter its origin, nor the causes which first led man to decorate the work of his hands or to piece out the creations of nature with additions of his own manufacture—was never forgotten, and is to be found in all races and at all times. The history of art shows us that notwithstanding the persistence of the art idea, it has experienced a constant succession of advances and retrogressions. There have therefore been a number of epochs when art, in a measure, began afresh and took a new lease of life, usually in a line differing from the pre-

*This Department is conducted by Mr. Barr Ferree, Lecturer on Art and Archæology in the University of Pennsylvania.

ceding one. The oldest historical form of art—the Egyptian—exhibits no preliminary stages; it is not only without introductory steps, but the earliest monuments are superior to the later ones. In Assyria less advanced monuments are to be found, but nothing has yet come to light that can be said to illustrate the origin of Assyrian art. Greek art exhibits a rich variety of early forms, and it is possible to study its development from the crudest forms to the most complete. With the collapse of the Roman empire and the barbarian eruption the artistic instinct became well-nigh extinguished, and art had almost to experience a new birth before it could develop again. Still keeping to the art of civilized people, it should be noted that sundry political and social causes led to the origin of the Byzantine and Mohammedan forms; unlike Christian art, they exhibit no elementary stages of their own, but are simply developments of certain stages of the older art.

Each form of art has therefore its own origin, which is not the less marked because it is at times a new evolution of an older form. Many interesting problems center in these early periods, and frequently light gained by the study of one epoch will make clear doubtful points in another. A study of the origins of art, or of artistic movements, is not the study of the most primitive forms only, but a survey of all periods at which a new element is introduced, a new style evolved, a fresh impulse created.

In studying these problems of historic art, the vast mass of material lying inside of the American field will not be forgotten. No review of the beginnings of art is complete that neglects the monuments of prehistoric times and of the lowest races of men, which to-day represent much the same stage of society as witnessed the evolution of the primitive art conception. Long neglected by the students of the history of art, this has been the special province of the antiquarian. It is here that we have rich finds. Here, at all events, the student of the origin of art must gather most important lessons and most valuable illustrations.

As to the connection between savage art, or primitive art, and the perfected art of modern times, much might be said. It is not, however, necessary to enlarge at present on their mutual relationship, but it should not be forgotten that the latter is the outcome of the former, and that the study of the one cannot but be helpful to an understanding of the other.

NOTES ON GREEK AND EGYPTIAN ART.

In a paper on "Reminiscences of Egypt in Doric Architecture," contained in *The American Journal of Archaeology* for March-June, 1890, Prof. Marquand notes the many indications of the Egyptian origin of Greek architecture, without under-

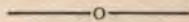
taking to demonstrate its evolution from that form of art, or insisting that the Greek is but a modification of the Egyptian. He notes, in fact, not resemblances nor origins, but reminiscences of Egypt in Doric temple-architecture, in the temenos with its sacred trees and springs and altar, in the temple base, the peripteral supports and the gable roof. He finds "that the Greek preserves the Egyptian methods of construction, even to the use of slanting walls and stuccoed columns; that the temple plan shows reminiscences of the peristyle and hypostyle halls, as well as of the sanctuary; that the diminution, entasis, echinus and annuli of the Doric shaft may be best explained upon the hypothesis of an Egyptian origin, and that the Ionic and Corinthian capitals became intelligible in the same way; that the Doric entablature, by both the form and the color of its triglyphal frieze, betrays its relationship to the Egyptian cornice; and that the ordinary details, whether sculptured mouldings or painted ornament, are mere variations of well-known Egyptian forms."

Considerable dissatisfaction has been expressed that the efforts of the American archæologists were not prompt enough to secure the money (\$80,000) for the purchase of the site before the concession was made to the French. The Archæological Institute, through the American School of Classical Studies at Athens, had already carried out a number of important excavations and was admirably able to superintend the work at Delphi. Its earliest work was the excavation of the theater at Thoricus, under the supervision of Prof. Allen. In 1886-7, Prof. d'Ooge began work at Sicyon, which was continued the following year by Prof. Merriam, who also undertook the work at Icaria. Excavations have also been undertaken at Plataea, Anthedon, Thisbe and Assos, in all of which American scholars have proved themselves worthy of the tasks committed to their care.

An important lecture on "The Lotus in Art and Architecture" was delivered by Mr. William Henry Goodyear, of New York, before the Brooklyn Institute, December 17th, 1890. In this lecture Mr. Goodyear presented a resumé of his discoveries on the employment of the lotus as an element of ancient art, which he has expanded in his work on "The Lotus," to be published shortly. The lotus or water lily, he said, claims its origin for decorative purposes in Egypt, where it was used as the symbol of the sun, the resurrection, and of creative power. It was the only form used by them in pattern ornament. These pattern ornaments were later borrowed by the Greeks, and developed by them into the pattern ornaments which became modern property. Much of the pottery excavated in Central America, of very ancient workmanship, bears the same sort of decoration as that of early Egypt. Many of their other forms have also been traced to the same origin. This was centuries before any ship was built big enough to navigate the ocean, and yet we have the

proof of Egyptian influence in America. The question is one which Mr. Goodyear does not attempt to answer directly himself. This, he claims, is the work of the archæologist, while his is that of architecture and design.

Considerable interest has been manifested in England recently over the extraordinary destruction to which the Egyptian monuments have been subjected. In *The Nineteenth Century* for November Mr. Henry Wallis presents a careful survey of the question. The chief source of trouble, he says, is due not to the ravages of the tourists, but to the laws of Egypt, whereby all the discoveries and finds must first be offered to the government. The shrewd "fellaheen" fully appreciate the fact that the government will pay less for their booty than will foreigners. Valuable discoveries are hidden away altogether, or the objects dispersed so as to prevent identification; while if they are of gold and silver they are more likely to find their way into the melting pot than into the hands of some careful collector, who if he did not always make known his possessions would at least preserve them intact. The iconoclastic character of many of the Mohammedans is another element that causes the destruction not only of fresh discoveries, but of monuments that have been exposed for years, for the religious fervor of the Mohammedan will not permit him to look upon an image without seeking to destroy it. The attempt on the part of archæologists to uncover too much and the leaving of monuments in unprotected conditions are other causes which lead to their destruction.



LITERARY NOTE.

The Nation, of New York, is so unfortunate as to have a contributor to whom is assigned the task of reviewing the various books which appear on archæology. This writer sets himself up as a critic, but a critic of the worst kind. Instead of treating an author fairly, and showing him where he may be at fault, or where there may be errors, he garbles a sentence here and twists a statement there, perverts and sets awry all that an author has said, and yet fails utterly to show any knowledge whatever of the subject which he is treating. This kind of treatment is bestowed not upon one book, but upon all. In fact authors have come to understand that if their books are favorably received and are uniformly commended, when this writer comes to review their works he will be an exception to all others. An ogre is supposed to be a creature which seizes upon everything that comes within its reach and tears and blackens it. This writer is not a critic; he is an ogre.

NOTES ON BIBLICAL ARCHÆOLOGY.

PAPERS READ BEFORE THE SOCIETY OF BIBLICAL ARCHÆOLOGY IN 1890.—Egyptian Inscriptions in the Middle Kingdom, by F. L. Wright; Divine Dynasties in Egypt, by Prof. Maspero; A Forgotten Prince (son of Seti I.), by Dr. Weidemann; Names of Isis and Osiris, and the Priestly Character of Early Egyptian Civilization, by Le Page Renouf; Accadian and Chinese Languages Affiliated, by Rev. C. J. Ball; The Tablet of Thirty Stars or Babylonian Astronomy, by Robert Brown; Winged Figures of Assyrian Monuments, by Dr. E. B. Tylor; Inscribed Magic Bowls Discovered in Babylonia.

DR. SCHLIEMANN has left in press an essay written in conjunction with Dr. Doerpfeld, in which he answers Bœtticher as to his discoveries in the Troad.

PAINTED BONES have been found in the Crimea and in Central Asia. Herodotus speaks of this custom as common among the Cimmerians. The Editor once found a skeleton in a mound, enveloped in red ochre. The sand was stained with the ochre for several inches.

THE ZUNI DANCES.—J. W. Fewkes has shown that the Zunis have dramatic representations of their traditions embodied in their dances. This is a modified form of a custom quite common among other tribes.

EGYPT.—The Egyptian Exploration Society proposes to make a topographical map of the valley of the Nile, with all localities of ancient historic interest especially marked.

THE SILOAM INSCRIPTION, it is said, has been cut out and removed. It was broken in the removal. A protest against such vandalism should be sent to the Turkish Government at once.

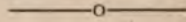
JADE.—Dr. G. M. Dawson has described the occurrence of boulders of jade partly sawn through on the Frazer River, and Lieut. Stoney speaks of jade mountains on the Kowak River in Alaska. Mr. Kunz also holds to the indigenous origin of jade.

SKULL FROM A MOUND.—Mr. C. L. Webster speaks in *The Naturalist* of a skull from a mound in Floyd County, Iowa, that is more animal-like than the "Neanderthal" skull. It was associated with five others of ordinary shape.

ENGRAVINGS AND CUTS—The Editor takes pleasure in acknowledging the loan of the cuts in this number from the Society of

Natural History of Cincinnati and from Robert Clarke. The cuts of the great serpent in Adams County, Ohio, which were used in number for July, 1890, were from *The Century Magazine*.

DESTRUCTION OF MONUMENTS.—The destruction which has been wantonly inflicted on the mounds during the past few years is lamentable. This is the case especially with the effigies. A society for the preservation of the monuments should be formed at once.



BOOK REVIEWS.

Results of an Enquiry as to the Existence of Man in North America during the Paleolithic Period. By Thomas Wilson. Washington, D. C. 1890.

This pamphlet has been prepared by Mr. Thomas Wilson as a bulletin of information on the paleolithic relics which have come to light as a result of enquiry. It appears that the author, who is custodian of the National Museum, has issued a circular to many of the prominent collectors in the Mississippi Valley, enquiring about paleolithic relics in their cabinets, their number, size, appearance, etc. The answers to this circular revealed the fact that a class of relics which Mr. Wilson freely calls paleolithics is quite common, though very few of them are shown to have been taken from any depth beneath the surface, and not a single one in association with an extinct animal. We have already said (see *Geologist* for January, 1890), that relics which have this rude shape may be or may not be paleolithic. Still, it is one step in the right direction. Perhaps the next step will be confirmatory. The collectors will now notice the surroundings and will inform the curator as the proximity of such rude relics to gravel beds, and will compare those on the surface with others found beneath the surface, always taking care not to confound an unfinished neolithic with a finished paleolithic. It is possible that we may ascertain what there is about this paleolithic age in America.

A Study of Prehistoric Anthropology. A Hand-book for Beginners. By Thos. Wilson. Washington. 1890.

There has been a demand for a hand-book on archæology for a long time. Mr. Wilson has, under the auspices of the National Museum, prepared this one, though we fear that the number of copies which have been printed is so few that it will hardly supply even the collectors, to say nothing of the amateurs and other archæologists. Mr. Wilson's method of treatment is such as might be expected. He begins with the paleolithics of Europe and then passes on to the so-called paleolithics in America. He next takes up some of the more common specimens of neolithics, and finally ends with a description of the better finished relics. A noteworthy feature of the book is the tribute which the author pays to the former curator, Dr. Charles Rau. Such kindly words will be appreciated by those who knew the diligent and careful observer and accurate archæological scholar. When there is so much to do in the way of laying foundations and so much uncertainty as to the fundamental principles, it is especially gratifying to see archæologists commending the work which has already been done. Co-operation is needed. Jealousy and variance between workers only hinder progress; co-operation aids it.

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THE MIGRATIONS OF THE MOUND-BUILDERS.

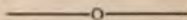
BY STEPHEN D. PEET.

One of the most striking peculiarities about the Mound-builders was that they avoided the coast and concentrated their forces thoroughly in the interior, making the rivers their special places of resort. We have already spoken of this in connection with the Mississippi River, and have shown that it was the great thoroughfare for the prehistoric races, the migrations of the races having been along its channels in both directions. Some of the races—such as the Dakotas—are known to have passed up from the south to the north, Perhaps the Mound-builders passed down from the north to the south at an earlier date. The Missouri River was another great artery which supplied life to the Mound-builders' territory. It is said that there are various mounds of the pyramidal type on the Missouri River, and that these have been traced at intervals along the channels, giving evidence that this was the route which the pyramid-builders took before they reached the stopping place. At its mouth was the capital of the pyramid-builders. The Ohio River was also an artery of the Mound-builders' territory. It was the channel through which the various Mound-builders poured. The Ohio River was the dividing line between the northern class of mound-builders, who were probably hunters, and the southern class, who were agriculturists. It was itself occupied by a people who were in a mingled agricultural and hunter state. They were, however, so surrounded by war-like tribes as to be obliged to dwell in fortified villages; and so it was the home of the "village" mound-builders.

There is no more interesting region in all the mound-builders' territory than this one through which the Ohio River ran. It was the favorite resort for the Mound-builders throughout all

Natural History of Cincinnati and from Robert Clarke. The cuts of the great serpent in Adams County, Ohio, which were used in number for July, 1890, were from *The Century Magazine*.

DESTRUCTION OF MONUMENTS.—The destruction which has been wantonly inflicted on the mounds during the past few years is lamentable. This is the case especially with the effigies. A society for the preservation of the monuments should be formed at once.



BOOK REVIEWS.

Results of an Enquiry as to the Existence of Man in North America during the Paleolithic Period. By Thomas Wilson. Washington, D. C. 1890.

This pamphlet has been prepared by Mr. Thomas Wilson as a bulletin of information on the paleolithic relics which have come to light as a result of enquiry. It appears that the author, who is custodian of the National Museum, has issued a circular to many of the prominent collectors in the Mississippi Valley, enquiring about paleolithic relics in their cabinets, their number, size, appearance, etc. The answers to this circular revealed the fact that a class of relics which Mr. Wilson freely calls paleolithics is quite common, though very few of them are shown to have been taken from any depth beneath the surface, and not a single one in association with an extinct animal. We have already said (see *Geologist* for January, 1890), that relics which have this rude shape may be or may not be paleolithic. Still, it is one step in the right direction. Perhaps the next step will be confirmatory. The collectors will now notice the surroundings and will inform the curator as the proximity of such rude relics to gravel beds, and will compare those on the surface with others found beneath the surface, always taking care not to confound an unfinished neolithic with a finished paleolithic. It is possible that we may ascertain what there is about this paleolithic age in America.

A Study of Prehistoric Anthropology. A Hand-book for Beginners. By Thos. Wilson. Washington. 1890.

There has been a demand for a hand-book on archæology for a long time. Mr. Wilson has, under the auspices of the National Museum, prepared this one, though we fear that the number of copies which have been printed is so few that it will hardly supply even the collectors, to say nothing of the amateurs and other archæologists. Mr. Wilson's method of treatment is such as might be expected. He begins with the paleolithics of Europe and then passes on to the so-called paleolithics in America. He next takes up some of the more common specimens of neolithics, and finally ends with a description of the better finished relics. A noteworthy feature of the book is the tribute which the author pays to the former curator, Dr. Charles Rau. Such kindly words will be appreciated by those who knew the diligent and careful observer and accurate archæological scholar. When there is so much to do in the way of laying foundations and so much uncertainty as to the fundamental principles, it is especially gratifying to see archæologists commending the work which has already been done. Co-operation is needed. Jealousy and variance between workers only hinder progress; co-operation aids it.

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THE MIGRATIONS OF THE MOUND-BUILDERS.

BY STEPHEN D. PEET.

One of the most striking peculiarities about the Mound-builders was that they avoided the coast and concentrated their forces thoroughly in the interior, making the rivers their special places of resort. We have already spoken of this in connection with the Mississippi River, and have shown that it was the great thoroughfare for the prehistoric races, the migrations of the races having been along its channels in both directions. Some of the races—such as the Dakotas—are known to have passed up from the south to the north. Perhaps the Mound-builders passed down from the north to the south at an earlier date. The Missouri River was another great artery which supplied life to the Mound-builders' territory. It is said that there are various mounds of the pyramidal type on the Missouri River, and that these have been traced at intervals along the channels, giving evidence that this was the route which the pyramid-builders took before they reached the stopping place. At its mouth was the capital of the pyramid-builders. The Ohio River was also an artery of the Mound-builders' territory. It was the channel through which the various Mound-builders poured. The Ohio River was the dividing line between the northern class of mound-builders, who were probably hunters, and the southern class, who were agriculturists. It was itself occupied by a people who were in a mingled agricultural and hunter state. They were, however, so surrounded by war-like tribes as to be obliged to dwell in fortified villages; and so it was the home of the "village" mound-builders.

There is no more interesting region in all the mound-builders' territory than this one through which the Ohio River ran. It was the favorite resort for the Mound-builders throughout all

the prehistoric times. There were prairies to the west, which were occupied by a class of people whose works and relics are still prevalent, whom we call nomadics. There was to the east and northeast another class of Mound-builders—a class whose works show that they were military in their character, possibly the same race which recently dwelt in New York State, and who also left their tokens all along the shores of the great lakes and extended into the State of Michigan. To the south and southeast were the remarkable works which have been ascribed to the Cherokees, some of which belonged to an unknown class of Mound-builders who preceded them. To the southwest were the many different tribes of mound-builders—the stone grave people, the lodge dwellers and the pyramid-builders. These,



Fig. 1.—Grave Creek Mound.

however, were all situated on rivers connected with the Ohio, so that one could pass from the region of the Ohio Mound-builders to nearly all the other districts where mounds have been discovered and not leave the boat or canoe in which he started, as the rivers were all navigable. We see, then, that the Ohio River was very central, that it not only traversed the mound-builders' territory, but, with the Mississippi and the Missouri, may be said to have drained the entire upper half of it, and by its branches—the Cumberland, the Tennessee and the Kenawha—it also drained much of the lower half.

Now we propose to enter this district and make a special study of it. We shall study it, however, mainly as a thoroughfare, through which the Mound-builders passed, or as a center from which they scattered, and shall seek evidences of their migrations, and, if possible, learn the direction they took, and the dates or periods, or at least the order of each. It should be

noticed at the outset that the Mound-builders of the Ohio River were divided into different classes, some of them being earlier and some later in the district. Several may be recognized. It still further may be stated that along this river a division has been recognized in the works of the district, one class being situated at the head-waters of the Alleghany River, another on the Muskingum and Scioto, a third on the Miami, and from the Miami to the Wabash, a fourth on the Wabash, from the Wabash to the Missouri, a fifth class on the Cumberland and the Tennessee, a sixth class on the St. Francis in Arkansas, a little beyond the mouth of the Ohio, and a seventh class on the Kentucky and the Kenawha. All of these are, however, closely connected with the Ohio, as the great artery through which the life of the mound-builders flowed.

We find a great variety of races in these localities, as each sub-district had a class of earth-works peculiar to itself—the



Fig. 2.—Map of Works on Paint Creek.

chambered tomb on the Alleghany, of which the Grave Creek mound is a type (see Fig. 1); the sacred circles and village enclosures on the Scioto (see Fig. 2) and Muskingum; the ancient forts on the Little and Big Miami (see Fig. 3); the conical mounds on the Wabash River (see Fig. 4); the lodge circles and walled villages on the St. Francis River; the stone graves on the Cumberland River (see Fig. 5), and the bee-hive tomb on the Kenawha River. The strangest feature of all is that in this region we find the representatives of all the mound-builders' works—the great serpent representing the effigy-builders, the altar mounds and fire-beds apparently representing the hunters of Iowa; the pyramids near Evansville representing the pyramid-builders; the bee-hive tombs representing the mountaineers in North Carolina; the circular enclosures, representing the sun worshipers; some of the fortifications representing the military people of New York; the stone forts representing the stone grave people of Kentucky and Tennessee, and the ash pits representing the later race of hunters which traversed the region at a late date.

We may say, then, that it is a peculiarly favorable place to study the migrations of the Mound-builders, as well as of the later Indians. Now in reference to this subject of migration, we are aware that various writers have treated of it, and it may be regarded as a test case, having great bearing on the mound-builders' problem. It may be well, then, to refer to these opinions before we go further. We shall speak first of the theory which Dr. Thomas has advanced. It is that the Mound-builders of the Alleghany River, those of Southern Ohio, of the Kenawha Valley and of Eastern Tennessee, were all the same people and were the ancestors of the Cherokees. Opposite to this theory is that of Sir Wm. Dawson, who holds that the Mound-builders

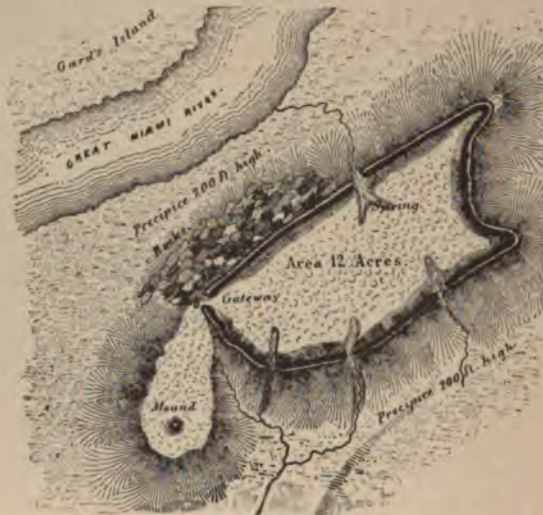


Fig. 5.—Fort at Hardinsburgh, on the Miami River.

were a people similar to the Toltecan race. Their features resemble the softer features of the Polynesians. Dr. Dawson thinks, however, that the Algonkins were a later people and that they came from the southeast, or, as he says, from the "equatorial Atlantic"—a theory perfectly untenable. Dr. Horatio Hale holds that the Algonkins came from the northwest, but that they found the Mound-builders before them. He locates them at first north of the Ohio, making their course to be south and across this river. Dr. Daniel Wilson, however, holds that the Mound-builders were made up of a number of races; some of them were allied to the Toltecan, or, possibly, to the Malays; some to the Algonkins and the Mongolian stock; and some to the ancient Hochelagans, of which the Eries and the Alleghans were the fragments. The opinion we advance is similar to that of Dr. Wilson, but in addition we would suggest that some of them were

allied to the Iberians, and that the sun-worshippers and serpent-worshippers of the Ohio River were similar to the class who left their symbols in Great Britain and in Western Europe.

Here, then, we have the different theories, and are to take our choice out of them all. Our work, however, is not to advance



Fig. 1.—Great Mound at Vincennes, on the Wabash.

and prove a theory, but to study the tokens and ascertain what their testimony is. We enter the field, which is very rich in prehistoric works, but these require the closest study for us to separate the tokens and assign them to the proper dates and order and races, and learn from them the order and the direction which those races observed in their migrations.

The question is, How are we to do this? We answer that there are three ways. First, we may take the location and the

traditions of the Indians; second, we may take the works of this district and compare them with other earth-works, noticing the resemblances and studying the similarity of customs and habits; and, third, we may take the relics of the Mound builders and see what relics are found in this district, and how they compare with those found elsewhere. We take the Ohio as connected with other rivers and as a center as connected with other centers, and see that it was a great thoroughfare for the prehistoric races.

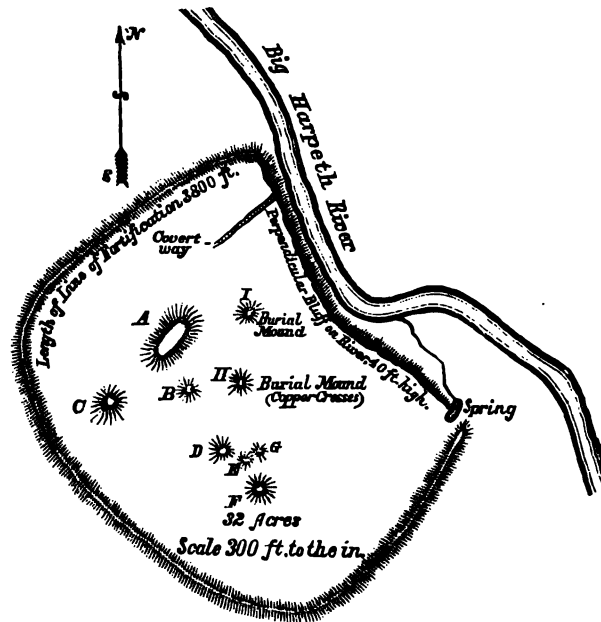


Fig. 5.—Typical Fort of the Stone Grave People.

I. First, let us consider the traditions of the Indian tribes as to their migrations: 1. The Cherokees were a tribe situated, at the opening of history, among the mountains of East Tennessee and perhaps as far east as North Carolina. There is a common tradition that the Cherokees were at one time in the Ohio Valley. 2. The Dakotas; this tribe or stock was, at the opening of history, located west of the Mississippi River, in the State which bears their name. The Dakotas have a tradition that they were once on the Ohio River, and that they migrated from there to the west. 3. The Natchez were a tribe formerly situated near the City of Natchez. They were sun-worshippers. It is supposed by some that the Natchez built the sun symbols in Ohio, but that they changed their methods and adopted the pyramid as their typical work afterward. 4. The Tetons, a

branch of the Dakotas, were probably once in this region, though their home was afterward in the northern part of Georgia. 5. The Eries have been spoken of as possibly the ancestors of the Mound-builders and as belonging to the same stock as the Alleghewis of tradition. 6. The Shawnees, a tribe of the Algonkin stock. They were great wanderers, and left their tokens in many localities. The district is full of graves of the Shawnees, which are interspersed among the works of the preceding mound-builders, but which are easily distinguishable from them by their modern appearance and by certain characteristics which are indefinable, but which are nevertheless easily recognizable. 7. The Iroquois have reached as far south as the Ohio River. We should undoubtedly find various relics left by this tribe in the periods preceding history.



Fig. 6.—Burial Mounds on the Scioto River, Ohio.

Now the point we make is that possibly we may find in the traditions of one or all of these tribes something which will help us to identify the mounds and relics of the region with the people who built them. We must, however, consider one thing before we undertake this. While there are traditions among the Indians as to their former struggles and conquests about this region, there are also evidences of preceding migrations, and this evidence comes to us as a confirmation that the Mound-builders here were not one people but many. In fact, it was a swarming place for several tribes or stocks. With this point in mind we may safely take up tradition as one source of evidence. The great rivers are supposed to have a record of migrations written upon their banks, the works and the various traditions of the Indians being by some identified with each river and the prominent mounds on each having been identified as the seat of some great event known in history or tradition.

It is well known that the tradition, which has been repeated so many times by the natives and gathered by the missionaries and by Schoolcraft, Heckwelder and others, in relation to the very migration we are now considering, has been located in many different places—first on the Mississippi, next on the St. Lawrence,

next on the St. Clair. It seems to have found its last resting place in this very district, at the head-waters of the Ohio. The celebrated Grave Creek mound is said to be the very spot where the event is commemorated. Now we would not depreciate the value of the tradition as one of the connecting links between the history of the Mound-builders and the modern Indians, but refer to the point as an evidence of the importance of discrimination in the matter of migrations.

Haywood says the Cherokees had a tradition in which was contained the history of their migrations. It was that they came from the upper part of the Ohio, where they erected earthworks. But there is a map contained in Catlin's book on the Indians which represents the route taken by the Mandans, a branch of the Dakotas. This map makes Ohio the starting point of that people, and the head-waters of the Missouri the termination of their wanderings. We regard this tradition as important as that of the Delawares or of the Iroquois, but it is a tradition which gives just the opposite direction for the route of the Mound-builders of the district. How shall we reconcile the two accounts? Our method of reconciling is one which we take from the study of the mounds. The Dakota tradition refers to a migration which probably preceded all the records of either the Tellegewi, the Cherokees, the Delawares and the Iroquois, the migration of the strange serpent worshipers originally occupying this district. Our position is that all of the traditions are important, but they prove a succession of populations in this region. If Dr. Thomas is to locate the Cherokees here, we also locate the ancestors of the Dakotas, and leave the way open for others to locate other tribes, so making the Mound-builders not one, but diverse and long continued. This is our point.

We may well take up the study of locality as connected with the traditions. Heckwelder says the Lenni Lenape resided, many hundred years ago, in a distant country in the west. They migrated eastward, and came to a fort and large town of the Namaesippi, as they called the country occupied by the Tellegewi, who had many large towns and regular fortifications. One of these towns was near the mouth of the Huron, and here are the mounds containing the bodies of the slain Tellegewi. Heckwelder also says the Mengwe and the Lenni Lenape united their forces, and great battles were fought. The enemy fortified their large towns and erected fortifications on the rivers and lakes. The war lasted many years. In the end the invaders conquered and divided the country between them. The Mengwe made choice of the lands in the vicinity of the great lakes, and the Lenape took possession of the country to the south. The Alleghewi, finding destruction inevitable, abandoned the country and fled down the Mississippi, from whence they never returned. Here, then, we have the Algonkin account, and we

seem to be looking at a picture of the Mound-builders who had occupied the territory. There is a discrepancy, however, in the tradition, or rather the interpretation of it. The scene is located on the Namaesippi, which Heckwelder calls the Missis-sippi, and the flight is down that river; but Heckwelder, in another place, locates one great battle nearly west of the St. Clair and another just south of Lake Erie, where hundreds of the Tellegewi were buried in the mounds. This tradition accords with the passages in Cusick's narrative, a narrative which comes from the Iroquois rather than from the Delawares or Lenapes. It also may accord with the poetical account contained in the *Walum Olum*, or the red score of the Delawares, translated by Dr. D. G. Brinton. Mr. Hale, in *THE AMERICAN ANTI-QUARIAN*, has said that the country from which the Lenni Lenape migrated was "Shinake, the land of fir trees," the woody region north of Lake Superior, and thinks that the River St. Lawrence is meant by the word great river Namaesippi. He, however, locates the battle mounds at St. Clair and the Detroit River and makes the Hurons the allies of the Lenape. All the accounts agree in this, that the Tellegewi were east of a great river and that they were defeated and driven south. Dr. Thomas thinks that the tradition assists him in carrying out the full identification of the Tellegewi with the mound-builders of this middle district, whom he regards as the ancestors of the Cherokees. He says that the Tellegewi or Tsalake was the name the Cherokees gave themselves. The tradition of the Cherokees refers to the region of the Upper Ohio as their former home. The testimony of the mounds and of the *Walum Olum* are in accord with the Grave Creek mound and those found in the Kenawha Valley, and when compared with the Ohio mounds prove that this was their home and the retreat was by way of the Kenawha River. Now this is very plausible, and, so far as it goes, it may prove satisfactory. Still we may say that there are traditions which locate other tribes in the same region, tribes which are of entirely different stock from the Alleghewi. On this point we would refer to the map contained in Catlin's *Indians* and to the one prepared by Mr. J. O. Dorsey. These show that the traditional route of the Dakotas was in the opposite direction from that of the Cherokees.

II. We now turn to the earth-works. We have said that there are many earth-works in this district, and that they can be divided both according to their geographical location and their chronological horizon. We have also said that the representatives of the works of other districts are found in this, and that these representatives may help us to identify the people who once passed through this great channel. We are now to take up the different districts and see what similarities there are. Let us first notice the centers of population. It is very remarkable

that these centers very closely correspond in the historic and the prehistoric times. To illustrate: The effigies are near the cities of Madison and Milwaukee, Wisconsin; the burial mounds of one class are not far from St. Paul, another class not far from Davenport, Iowa; the serpent mound (see Fig. 8) not far from



Fig. 7.—Serpent Mound in Ohio.

Quincy, Illinois; a pyramid mound just opposite St. Louis, others near the City of Natchez, Mississippi; the stone grave people near the City Nashville, Tennessee; the bee-hive tombs near the City Knoxville, Tennessee; the Grave Creek mound not far from Pittsburg; the sacred enclosures near Chillicothe, Newark and Cincinnati, and the very large conical mounds near Detroit, Vincennes (see Fig. 4), Dayton and Hamilton.

Here, then, we have a map of the country, with the centers marked. The rivers also unite these centers—the Alleghany, Muskingum, the Miami, the Wabash, the Cumberland, the Tennessee, the Illinois, the Wisconsin, the Iowa, the Des Moines, the

Missouri, the St. Francis, the Red, the Arkansas, the Yazoo, the Ocmulgee, the Tombigbee, the Kenawha and the Kentucky, and they all contain mounds on their banks.

III. The question is about the resemblances between the works in these different centers and those on the Ohio. There may be resemblances where there were no migrations, but the probabilities are that they were caused by the adherence of the migrating tribes to their former customs, the people retaining the signs

and burial customs wherever they went. This is seen in many districts. The sun-worshippers built the circles and squares, the serpent-worshippers built serpent effigies, the pyramid-builders built platforms, the hunters built lookout mounds and game drives, the military people built forts; but they went elsewhere, for we find serpent effigies, circular enclosures, lookout mounds, fortifications, burial chambers, altar mounds and pyramids in other localities as well as here.

We give here cuts of the serpent in Ohio and of the serpent effigy near Quincy, Illinois. These effigies are respectively 1250 and 1400 feet in length. They are both conformed to the shape of the bluffs on which they were erected, and have other features which are similar.

This, then, is the point we make in connection with the middle district. We enter this district and find that different races



Fig. 8.—Serpent Mound in Illinois.

passed through it. Some were early and some late. We also find that the tribes went in different directions, some going to the south and along the sea coast, and became the sea coast people; some to the southwest, across the mountains, and became mountaineers; some to the west, to the prairie region, and became hunters; some to the Gulf States, and became agriculturists. All the works in these different districts show that the people were once in the middle district and had made the Ohio River, or at least a part of it, their stopping place. There is, however, one thing to be noticed. While the representatives of all the districts are contained in the Ohio Valley, yet the different parts of that valley are to be considered, for the pyramid-builders never appeared on the eastern waters, the sun-worshippers never in the western part, the fort-builders erected their works in the middle part, and the serpent-worshippers merely passed through or crossed over the central part, and ultimately built their works in distant regions. This is the way we reconcile the different theories, as to the modern migrations which are recorded in history and in tradition. The Cherokees may have migrated through the eastern part of this valley. If they did, it was at a comparatively recent date, for all their works

and relics show this. The Shawnees may also have passed up and down the same valley, but this was at a recent date. We have reason to believe that a race of sun-worshippers preceded these and that this race built the sun circles on the Kenawha River, in West Virginia, and on the Wateree River, in South Carolina, although it is very uncertain which direction they took in their migrations.

There is another fact which should be noticed. The mounds were built at different times, and by different races. They contain layers which are like the strata of geology. These give different chronological horizons and represent different periods. An illustration of this is given. See Fig. 9; also Fig. 11. Here we have a mound which contains a horizontal burial, two bodies in a sitting posture, and an altar at the base. These were not intruded burials, but were the work of successive races or tribes which passed through this valley, each one of which added to the height of the mound. The same thought is conveyed also



Fig. 9.—Altar Mound on the Kenawha.

by the different kinds of mounds found in one locality. Some tribes built chambered tombs, others stratified mounds and others altar mounds.

We take up the chambered mounds first, the class of which the Grave Creek mound is the representative. We say that this class of mounds is somewhat exceptional in Ohio, but they seem to be later than the sacred enclosures, or at least they are to be assigned to a different race. We notice from the description given by Squier and Davis that they are rarely if ever found inside of enclosures, but are generally isolated on hilltops. We find also that they contain an entirely different class of relics, and are constructed after a different pattern.

It seems to be the opinion of certain archæologists that the Grave Creek mound is the one which figures conspicuously in tradition, and that this is the monument of the Alleghewies or Cherokees. It may be said of it that it differs from most of the mounds in Ohio in that it is isolated, having no earth-works in the neighborhood. It is a chambered mound. In fact, it contained two chambers, one above the other. Each chamber was square and contained a number of bodies. The manner of building the chamber was as follows: A series of timber posts were placed on end, forming the wall of the chamber. Other timbers were placed across these upright posts, so as

form a roof. This roof had decayed and fallen in, so that when the mound was first visited it contained a hollow place at its summit. At the time of the exploration the two chambers became mingled together, the dirt falling from the upper into the lower. There is no doubt that the same race erected both chambers. The mound was a very high one, was situated so as to give a view of the Ohio River, and may have been used as a lookout station as well as a burial place. The Grave Creek mound also contained one skeleton in the upper chamber, and two in the lower chamber, and it may be conjectured that they were sepulchral chambers, which contained the bones of the family of the chieftan or distinguished individuals among the tribe of the builders. With these skeletons were found three or four thousand shell beads, several bracelets of copper and various articles carved in stone. It is said, however, that on reaching the lower vault it was determined to enlarge it for the accommodation of visitors, and in so doing ten more skeletons were discovered, all in a sitting posture, but in so fragile a state as to defy all attempts at preservation. We might say in connection with this Grave Creek mound and the theory that it was built by the Cherokees, that the tablet about which so much discussion has arisen, was said to be found in the lower chamber, though it may have dropped from the upper one. It is now over twenty years since the tablet was thrown out of court, its evidence having been impeached so many times that it has no weight in solving the problem. Still, inasmuch as the Cherokees have an alphabet, which was said to have been introduced or invented by the Cherokee Sequoia, and as other stones have been discovered with alphabetic characters on them, perhaps the case should be reconsidered.

There are very few mounds in Ohio which contain chambers like these. While there were various mounds which contained single chambers made from logs, they were generally comparatively small mounds, and the chambers within them were much smaller. Squier and Davis have spoken of a sepulchral mound on the east bank of the Scioto River, one of a group, which was twenty-two feet high by ninety feet base. At ten feet below the surface occurred a layer of charcoal; at the depth of twenty-two feet was a frame-work of timber, nine feet long, seven feet wide and twenty inches wide, which had been covered with unhewn logs. The bottom had been covered with bark matting, and upon the matting was a single skeleton. Around the neck of the skeleton was a triple row of beads made of marine shells, several hundred in number, and the tusks of some animal. This is the mound, however, to which we have referred already. It was a mound which, in its location, showed that it was not one which belonged to the sun-worshippers. It was situated six miles from Chillicothe, on a hill, a mile and a half from any enclosure,

though surrounded by other burial mounds of the same shape. See Fig. 6. This mound we ascribe to a different race from those who built the altar mounds and the enclosures.

Dr. Thomas speaks of two mounds in the Kenawha Valley, one called the Smith mound and the other No. 23, one being 35 feet high and 175 feet in circumference, the other 25 feet high and 312 feet in circumference. Both contained chambers made from logs, one of them 13 feet long and 12 wide, the other 12 feet across and some 10 feet high. Both were in the form of a pen. It appears that the great Smith mound contained five skeletons, one very large, over seven feet long. Each wrist was

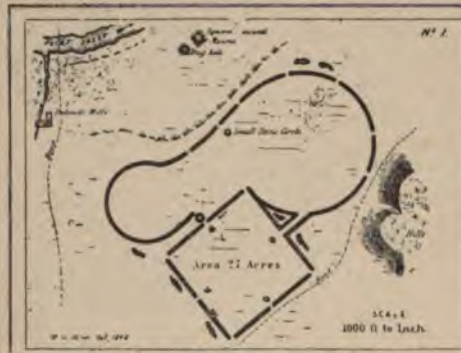


Fig. 10—Village Enclosure on the Scioto River.

encircled by copper bracelets; upon the breast was a copper gorget; in each hand were three flint lance-heads; near the right hand a small hematite celt and a stone axe; upon the shoulder three sheets of mica and a fragment of dressed skin, which had been preserved by the copper. Another mound situated in the valley of the Scioto River, on the very lowest terrace (see Fig. 10), where the water frequently overflowed, was excavated and found to contain chambers, or vaults, one above the other. These vaults were larger, and of different shapes, being 36 feet in diameter, and circular in shape. They were built by posts placed upright, 11 inches apart, the upper vault having two circular rows of posts, but the lower only one. On the floor of each vault were several skeletons. There were also logs or timbers in the lower vault, giving the idea that this one was also built in the same way. Dr. Thomas says there were some indications that the burial was comparatively recent, as a bone showing the cuts of a steel knife was found in the vault. The fact that the mound was on the low ground overflowed by the river also shows that it was recent, as all the old mounds were on the terraces above the flood plain, and were evidently built when the water covered the flood plain, while this one was built after the flood plain had been drained. The large vaults with the modern relic, Dr. Thomas thinks, were used as council houses and that they resemble those used by the Cherokees after the time of history. The discovery of a similar vault by Mr. Lucien Carr is referred to in evidence. This vault, so called, was on the top of a truncated oval mound in Lee County, West Virginia. It was evidently a rotunda, such as the Chero-

kees used as their places of assembly, as there was a row of posts arranged in a circle, showing this. The argument which Dr. Thomas dwells upon is that the proximity to the circle and square called the Baum Works proves it to have been built by the same people. This, however, is the very point we make on the other side. It proves the succession of races, and shows that the Cherokees were among the last in the region, but were not the village sun-worshippers, as is suggested. The vaulted mounds have not been found in the circles or squares, nor in connection with the covered ways or double circles, nor do they contain any such finely carved relics as belonged to the earlier class of sun-worshippers. These are very rude and the mounds are differently situated.

IV. The mode of burial practiced by the Mound-builders is next to be considered. Dr. Thomas, in his work, has shown one mode of burial which was quite remarkable. It seems to have consisted in the digging of a circular pit, and then placing bodies in the pit and building stone cones or chambers over the bodies. This pit with stone vaults and skeletons was explored by the agent of the Bureau of Ethnology. It is a true circle, 38 feet in diameter, not more than a foot and a half in height. The bee-hive shaped vaults were built of water-worn boulders. The skeleton was placed upon its feet and a wall built up around it. On the top of the head of one skeleton, under the capstone, were several plates of silvery mica. Many of the stones of the little vaults bore unmistakable evidences of fire. The only relic found was a pipe, found near the mouth of one. This pit was covered with a very low mound. Near the mound was a triangle, which proved to be a communal grave. It was a burial pit. The two long sides of the triangle were 48 feet each, and the other side 32 feet. The depth varied from two and a half to three feet. Here was a bee-hive shaped vault of cobble stones. In the pit a skeleton, and a large engraved gorget were with it; a number of large-sized shell beads; at the sides of the head, near the ears, five copper beads or small cylinders; under the breast, a piece of copper; about each wrist a bracelet, composed of alternate beads of copper and shell; at his right hand were four iron specimens, one of them in the form of a thin celt; another apparently a part of the blade of a long slender knife or dagger; another a part of a round awl-shaped instrument. Scattered over and between the skeletons of this group were numerous polished celts, discoidal stones, copper arrow-points, plates of mica, lumps of paint. About 200 yards east of the triangle was another low mound, covering a circular pit similar to the one described, in which were twenty-six skeletons. In a different part of the same county another similar pit, containing a kind of communal grave, in which were the following articles: One stone axe, 43 polished celts, 9 pottery vessels, the handle of one

representing an owl's head and another an eagle's head, 32 arrow heads, 20 soapstone pipes, 12 discoidal stones, 10 rubbing stones, 6 engraved shells, 4 shell gorgets, 1 sea shell, 5 large copper beads, a few rude shell pins. Among the shell gorgets was one containing four birds' heads with the looped square figure, a symbol of the sun, and a figure of the cross enclosed in a circle. The soapstone pipes were of peculiar shape. One of them had a bowl in the shape of a tube, but with a flat stem or mouth-piece. A number of pipes similar to this have been found in a mound in Sullivan County, East Tennessee. Others have been found in West Virginia. A very modern-looking pipe is also presented by Dr. Thomas, though he does not state exactly where it was found. This group of mounds or burial pits was situated on the borders of the white settlement, a locality where we would expect to find the traces of contact with the whites. The Cherokees long resided on the mountains of East Tennessee. They took the patterns for their pipes from the whites, but they retained many other relics. The symbolism they held in common with other tribes was perpetuated intact.

One fact is to be noticed. In one of the mounds in North Carolina, the one which contained the circular pit, some eight or ten skeletons with heads which had been elongated by artificial pressure were discovered. The Catawbias are said to have practiced this head flattening, as did many of the Muskogee stock. The explorations on the Little Tennessee River among the overhill towns, yielded a number of relics which resembled those found in North Carolina. The mounds here contained a peculiar style of clay beds, saucer-shaped, varying in diameter from six to fifteen feet, built in layers, one above another, three to five beds, with a layer of coal and ashes between them. In one mound were found a number of skeletons, and by the side of nearly every skeleton were shell masks, shell pins, shell beads, perforated shells, engraved shells, discoidal stones, polished celts, arrow-heads, spear-heads, stone gorgets, bone implements, clay vessels and copper hawk bells. The hawk bells were with the skeleton of a child, at a depth of three feet and a half. They were in the form of sleigh bells, but with pebbles and shell beads for rattles. In another mound on the Little Tennessee, two miles from Morgantown, were found nine skeletons, and with one were two copper bracelets, copper beads, a small drilled stone, an engraved stone which had some of the characters of the Cherokee alphabet on it. The argument which Dr. Thomas makes in connection with these finds is that the mound-builders were Indians, and the particular tribe who built these mounds were Cherokees. The argument is, however, misleading. It may be forcible as proving the migration and the modern character of the Cherokees, but it begs the question as to the other tribes of mound-builders. The tribes which were formerly lo-

cated along the Atlantic coast and on the Alleghany mountains have never been recognized as belonging to the Mound-builders. Many of these works are to be connected with the historic Indians, such as the Powhattans of the Algonkin stock and the Tuscaroras of the Iroquois stock. The value of the finds consists in the fact that the record of the Cherokees is carried back into prehistoric times and the record of mound-building brought up to modern times; but to make the Cherokees the mound-builders of the Mississippi Valley is absurd. The Cherokees may have passed over a portion of the Mound-builders' territory, precisely as the Dakotas are supposed to have done at an early time and as we know other tribes—such as the Shawnees, Delawares, Iroquois and Wyandottes—did after the time of the discovery; but the probability is that their route was over the eastern part and not the western.

The bee-hive vault has been dwelt upon as proof, but the bee-hive vault resembles the bee-hive huts, which are common in Scotland, as much as it does any structure found in Southern Ohio. Shall we say that these bee-hive vaults prove the Cherokees to have come from Scotland? The Cherokees are said to have been very white, and might almost be called white Indians. Shall we trace the Cherokees back to a white race, which, according to some, was allied to the Aryan? Their language is said to be related to the Iroquois. The earliest known migrations of the Dakotas were from the east. Shall we, then, trace both the Dakotas and Cherokees back to the island of Great Britain, making the route of their migration to be by way of Iceland and the coast of Labrador, and take the coincidence between the bee-hive huts and bee-hive vaults and make out a case in that way?

The effigy mounds of Southern Ohio, especially the great serpent, the bird mounds of Northern Georgia, the effigies of Wisconsin and the stone effigies of Dakota are assigned by some to the different branches of the Dakotas—the Tuteloes having once been located in Northern Georgia, not far from where the bird effigy is; other tribes—such as the Iowas and Mandans—having, according to tradition, carried these symbols to Dakota; the Winnebagos, another branch, had their last abode in Wisconsin, where the effigies are so numerous.

The great objection to the Cherokee theory is that too much is claimed for it. According to Dr. Thomas there are, in the mounds of the Kenawha Valley, several different kinds of burials, some of them resembling those found among the Cherokees; but the trouble is that these have all been mingled together as if they all belonged to one tribe, whereas they prove that several tribes passed through this region. Let us enumerate the different forms of burial mounds which Dr. Thomas has assigned to this tribe. 1. We find the bee-hive tombs in North Carolina. These were found in a circular pit. 2. The triangle con-

taining graves and modern relics. 3. The mounds with burials between bark coverings in East Tennessee. 4. The square chambered tombs in the Grave Creek mound, in the Kenawha mound, and those on the Scioto. 5. The round chambers, lined with upright posts, contained within the pyramid mound on the flood plain in the valley of the Scioto. 6. The altar found at the bottom of one of the mounds in the Kenawha Valley (see Fig. 9), resembling those found in Ohio. 7. Altars made from cubical piles of stones, found in Eastern Iowa, resembling those found in Tennessee. 8. The altar beds in Calhoun County, Illinois, resembling others in Tennessee. 9. The square piles of stones in Franklin County, Indiana, resembling those found in Tennessee. Besides these there were the stone graves found in the Kenawha Valley, those in Illinois, and those found in the bottom of the pyramid mound at Etowah, Georgia,

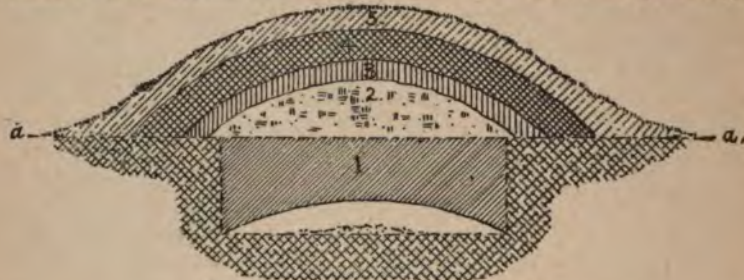


Fig. 11.—Stratified Mound in Wisconsin.

the stratified mounds found in the neighborhood of Davenport, the chambered tomb found in Wisconsin, the stone vaults found on the Mississippi and the Missouri Rivers. Now to ascribe all these to any one tribe seems to us the height of absurdity. The mounds were evidently built by a succession of races. Fig. 11 illustrates this.

In this mound we find at the bottom a circular vault three feet deep and 6 feet in diameter, filled with chocolate dust, No. 1. Next to this was a layer, marked 2, containing the bones of fifteen or twenty persons. Above them a layer of burned clay. Above this, in No. 4, was a mass of calcined bones, mingled with ashes and a reddish brown mortar burned as hard as brick.

We are ready to acknowledge the resemblance between these circles in the Kenawha Valley and those on the Wateree River in South Carolina, and especially the similar significance of the circle with the mound in its center, which seems always to be a sign of sun-worship. Squier and Davis have called attention to the general similarity between the southern mounds and the Ohio mounds, especially to the fact that there were spiral paths around the outside of them. They speak of the council or oblong mound in the circle on the Wateree River, with a circumference of 550 feet at the base and 225 feet at the top, and

30 feet high. They say, however, that while this region was occupied by the Cherokees at one time and by the Ocmulgees at another, still that the country was, many ages preceding the Cherokees, inhabited by one nation, who were ruled by the same system of laws, customs and language, but so ancient that the Cherokees or the Creeks could give no account of them or the purposes for which they erected the monuments. High pyramidal mounds, with spacious avenues leading to artificial lakes, and cubical yards, with sunken areas and rotundas, are the characteristic works of the south—works which the Cherokees adopted and used, but which, it is said, they did not build. The contrast between the two classes is marked, as the water cultus is plain in one and sun-worship in the other, and yet the connecting link may be found in the circles we are describing.

Here, then, we have the evidence. The migrations of the pyramid-builders, like that of the stone grave people, may have been from north to south or from south to north. The migration of the circle-builders, sun-worshippers, may have been north or south, but they did not pass through this valley; but, on the contrary, the serpent-worshippers, whose works are found on the Ohio River and on the Mississippi River, must have migrated through the whole middle district, the Ohio River being the thoroughfare. It does not seem sensible that they were the same people who built the bee-hive vaults or even the chambered tombs, for not one such one structure is found in all their western track. There are, to be sure, stone altars and stratified mounds on the west side of the Mississippi, near Davenport, and a few log heap graves found in the mounds at Tollesboro. There are, also on the east side of the river, the mounds which contain at their lowest depths the same kind of fire-beds common in Ohio; and the mounds of Wisconsin contain the same kind of altars we have learned to recognize as the most ancient. Our conclusion is that there were sun-worshippers in the eastern end of the Ohio Valley and pyramid-builders at the western end, and that the sun-worshippers drove out the serpent-worshippers, who were obliged to go through or around the territory of the pyramid-builders. The migration of the Mound-builders is plainly exhibited by the works of the Ohio Valley.

The argument which we make is this: The burials referred to above are so varied that it is absurd to ascribe them to any one Indian tribe, either Cherokee, Shawnee or Dakota. True the analysis and comparison might enable us to assign those northwest to one general class; those on the Missouri River to another; those on the Upper Mississippi to a third; those on the Middle Mississippi to a fourth; those on the Southern Mississippi to a fifth; those on the Cumberland to a sixth; those on the Upper Ohio to a seventh; and those on the Wateree River and in East Tennessee to the eighth class. This is, however,

only repeating what has been said before the Mound-builders were divided into several distinct classes, and differed according to location,—each tribe having its own peculiar earth-works and burial mounds and relics. So far as the classes and districts are concerned, there is no great difficulty in tracing the tribes which occupied these subsequent to the time of history, back to the Mound-building period and in identifying them in some of the burials which have been preserved; but to say that these historic tribes were the builders of all the mounds in the district is going contrary to the facts, for there is too much variety in the mounds of each district to admit of this.

It is no easy task for us to divide the relics of the later from the earlier races, and much less easy to trace the migrations of either of them from one district to another. The migration of the later Indians may indeed be traced by their traditions, and we may imagine that we have identified the routes by the relics and works scattered along those routes; but we are very likely to be deceived. If we have a theory to carry out we are quite sure to prove it by the slight indications which are presented. This thing we can rely upon, however:—The mounds, earth-works and relics are so arranged in districts, and so correlated to those districts, that we may safely give names to the people of the district; but they must be names which are taken from the ancient works, rather than from the modern tribes. This is the case even when we think that we have traced the migration routes by the works, for, after all that we may do, it is still an open question whether the races and the works can be fully identified.

Modern races followed the ancient in all the districts; but the ancient relics were transmitted, and modern relics intruded in such strange, unaccountable ways and out-of-the-way places, as to make us pause before we give a certainty to our speculations in regard to this subject. The monitor pipes, the duck pipes, the shell gorgets, the inscribed shells, the copper relics, the gold ornaments, and various other relics, may be scattered through the mounds of each separate district, and at the same time be found in the hands of the later Indians occupying these districts; but the traditions, the relics and the earth-works in these same districts, often compel us to go back of these people and to assign a long succession of tribes to the district, so that we may say it is actually easier for us to trace the migrations of the Mound-builders from one district to another than it is to trace the history of the district, back through its different periods of occupation.

THE HIGHER CIVILIZATION OF THE EARLIER MOUND-BUILDERS.

By J. P. SHREVE.

On entering the arena of American archæology, I desire at once to throw down the gauntlet to those who ascribe the rude and wild condition of the "Indian" to that remarkable people whom we call Mound-builders. As to who and what the "Indians" are, I will at another time offer a proposition. In this paper I wish to present some ideas on the civilization of the Southern Mound-builders—a subject which the opening sentence of the editorial in *THE AMERICAN ANTIQUARIAN* for November, 1890, induced me to take up as a commencement.

The heading of this paper denotes how entirely distinct I believe the two races to have been. The facts I present will demonstrate my reasons. When the English colonists began investigating the interior of this land from the Atlantic coast, in the fifteenth and sixteenth centuries, their first intercourse was with the wild "Indians." And we all know that it was the belief that America was a part of India that originated the name of "Indian" for the inhabitants of this hemisphere. Passing inland, and after crossing the Alleghanies, the pioneers met with these curious earth-works, and recognizing them as artificial, they hurriedly assigned their existence to the only agency then visibly existing there, and not pausing to think, called them "Indian mounds". Unfortunately impromptu names attached on first sight often take such hold as to be most difficult to eradicate from popular recognition, and since no positive and historic explanation has yet been ascertained, custom still denotes these tumuli "Indian mounds." Yet, although popular nomenclature is hard to eliminate, archæologists need to be very exact, and their persistent leading will gradually influence the multitude to follow them.

I believe it was Dr. J. D. Baldwin who, in this connection, called attention to the fact that the history of the world shows that civilized communities may lose their enlightenment and sink into a condition of barbarism, but even in that degraded position they retain some traces of their lost civilization, some traditions of the former life of their ancestors, some words in their language which denote a higher use. Every evidence of the Mound-builders' existence is coupled with proofs of cultivation in all the essential lines of finished national life. "The systematic application to useful industry which promotes intelligence,

elevates the condition of life, accumulates wealth and undertakes great works, means civilization; and this condition is unmistakably demonstrated in every appearance of the Mound-builder." No Indian could ever have known such a condition; he has nothing in common with it. Indians come of a stock which had never at any time been either civilized or associated with the influences of civilization. They had only such organization as was required by their nomadic habits, and their methods of hunting and fighting. "The barbarism of the wild Indians was original barbarism. There was nothing to indicate that any of the Northern Indians or their ancestors, near or remote, had ever been civilized, even to the extent of becoming capable of advanced art or organized industry." No savage tribe found here by Europeans could have undertaken such art products as those of the Southern Mound-builders.

In commencing our search for their constructions, and keeping in view the main question involved—do they in themselves yield positive or even circumstantial evidence of an actual or an apparent degree of civilization—these three qualifications must ever be kept in sight: 1, the locality in which they are found; 2, the material of which they consist; 3, their resemblance.

With these also must be carried throughout a comparison with the facts known and positive in the universal history of civilization among other races.

I. The localities in which the mounds are discovered are as varied as the length and breadth of this continent can make them; beginning up in the cold climate of British Columbia, through the temperate zone, where the best energies of mankind most surely develop, down to the luxurious ease of the tropics all around the gulf shore into Mexico. But throughout the whole range which this broad outline includes there is invariably one marked similarity, one strong peculiarity, of choice always present. A national taste is without exception shown in the selection of sites; *always selected*, never stumbled upon haphazard; and while surroundings of scenery and climate greatly influence character, the settlements made by these people were without exception beside rivers, in fertile plains, in agricultural or pasture lands. None have been found in the Atlantic States nor in Canada north of the great lakes, because, as I think, the savages were there. The sites most known are on the Ohio, the Missouri and the Mississippi, but it is best to take them regularly and commence at the northwest.

A British Columbia paper of 1872 describes a mound twenty-five miles from Olympia, with smaller ones scattered over an area of fifteen miles. Wilkes, in his exploring expedition, describes groups of them in the Bute prairies of Oregon, many thousand in number. Many of these are small hillocks in close proximity, clusters of hundreds at a place, as though for settlements or encampments hastily thrown up, or built so close, for

warmth or for protection from wild animals, or from possibility of attack from previous owners of the land. As these necessities or fears vanish, other needs and necessities arise; instinct as well as increase urges their advance inland, and we find the mounds rapidly changing into distinct branches and systematic organizations. *The Denver News*, 1873, states a mound had been lately opened in Utah, yielding relics of great artistic skill. "Others are found on Big Horn River. Half a mile west of Golden City, Colorado, are the remains of a laid-out city; on the Yellowstone River is a regular city of mounds, streets regular and mounds equidistant; eighty-seven mounds in good condition, sixty-three in ruins. Other settlements are on the banks of the Moreau and of the Great Cheyenne."* Mr. Bertrandt states such remains are found at the mouth of the Yellowstone and Upper Missouri, near Clark's Creek, Dakota. Further east, along the States bordering on the Upper Lakes, but always tending southward, are the peculiar shapes of animals, like huge *relievos*, or sometimes in *intaglio*, large settlements in the rich, prolific lands of Wisconsin. In Michigan are the garden beds, where fruit and vegetables grow so luxuriantly in the light sandy soil of that country during the comparatively short summer. In Northern Indiana there are fields from ten to one hundred acres, "running," as some one has pointed out, "in different directions as if one family had a separate patch."

The animal shape is occasionally found further south than Ohio, but there in the broad level, well watered and sufficiently wooded lands, where the really important settlements seem to have been, we find the outlines of the mounds most distinctly regular, very exact in measurement, very much larger, and of consequence enough to be protected by embankments, showing, also, that there where they had the largest cities, they also met foes wild, unscrupulous and inscrutable. Of these mounds in Ohio, Squier and Davis particularly point out that their remarkable distinction is in the perfection of figures in which the erections are made; and those writers hold it as an incontestable proof that they who planned them possessed a standard of measurement, and an exact means of determining angles. "It has been ascertained that the circular enclosures are perfect circles, and the squares perfect squares, constructed with a geometrical precision which implies a knowledge in the architects that we should call scientific."† At Hopetown, Ohio, at Liberty, Ohio, the exactness of the measurements are unquestionable; Pike county, Ohio, is a square within a circle, as well as many others.

The mounds abruptly stop with the Alleghanies, and we

*I copied this statement from a book I read a year ago, but omitted to mark which book among many I was looking through.

†Baldwin.

follow their direction southward. In Tennessee, where the Cumberland mountains terminate, near the Tusculum and Florence, and the mouth of the Big Black River, a large tract of country along the valleys of these rivers was once densely peopled. The Mound-builders were undoubtedly at work there; but it must be equally understood, that as they crossed the Ohio and traveled southward, they mingled, either peaceably or forcibly, with another civilized people,—those who had spread up from Central America,—because the tumuli, in many instances, are not only truncated pyramids, like those of Mexico and Central America, but are carefully planned with their lines by the cardinal points. Another definite proof of this is given in the November number of *THE AMERICAN ANTIQUARIAN* in the "Inscribed Shells from Tennessee", bearing a striking similarity to the figures carved on the ruins at Palenque.

The great southern country, lying between the Potomac and Ohio, on the north, the Gulf, on the south, the Atlantic, on the east, and stretching west beyond the Mississippi, is also the site of innumerable mounds. With the usual indifference of all the early travelers, to everything save the search for gold, no discrimination was made between the dwellers in the south and any "other Indian tribe". But the incidental allusions and the descriptions of Spanish and other early writers help us to see, partly, that which, had they not been so blinded, might now have been clear and comprehensible.

Garcillasso de la Vega, in his account of De Soto's raid across the country, among other things, says: "The houses of the chiefs were, with scarcely an exception, built on large, elevated artificial mounds, large enough to sustain the houses of the chief and family,—making quite a little town of itself. At the foot a large square was marked out, around which the great warriors built their houses. The inferior classes put up their dwellings beyond and around. Some of the mounds had several stairways, made by cutting inclined planes, fifteen or twenty feet wide, flanking the sides with posts, and laying poles horizontally across the earthen steps to form a wooden stairway. But generally the lofty residence of the great ruler was approached by only one flight of steps. The mounds were steep and otherwise inaccessible."

At one time, De Soto was met by a chief with five hundred warriors, who escorted him to a town containing three hundred houses,—that of the chief being on an elevated mound, surrounded by a terrace wide enough for six men to walk abreast.

At the great town of Chiaha, the chief offered the Spaniards twenty barns full of corn, quantities of bear's oil kept in gourds, walnut oil as clear and appetizing as butter, and pots of honey.

With regard to their manufactures "it is readily conceded that the Southern Indians exceed all others in the ceramic art:



PLATE I.—POTTERY FROM ASH PITS.



PLATE II.—POTTERY VESSELS AND PIPES FROM ASH PITS.



PLATE III.—POTTERY AND SHELL ORNAMENTS.



PLATE IV.—CONVENTIONAL ORNAMENTS OF THE MOUND-BUILDERS.

the women knew how to make earthen vessels so large and fine our potters with their wheels can make no finer." * * * "Amongst them we do not find the women condemned to do all the work; the men had their share of the hard labor, but the women were experts in weaving handsome carpets. They passed the woof with a shuttle, using a couple of threadles with the hand, like weavers before machinery was used."* Every description of these people, evidences in their religion, in their buildings, in their customs, a civilization partly fallen into desuetude rather than a merely advanced stage of the wild, untutored savage. Some of the earliest travelers called them the Muscogeans, but the English when they first began to explore the country called them Creeks, because they invariably dwelt in the lovely valleys on the banks of the streams running in all directions over the country.

In that word "dwelt," we note the distinguishing line betwixt them and the "Indian," whose wandering propensities are the inevitable and inalienable indication of his race. After the Spanish raid through the southern country, the disheartened remnant of the inhabitants would become an easy prey to the warlike Indians of the Atlantic, probably the same who had driven their ancestors from Ohio; and thus account for the mixture or varieties of tribes spoken of by the early travelers and writers of the southern lands.

In Southern Louisiana there are thousands of mounds clustered together nearly all round the gulf marsh margins; they are close and only elevated by a few inches. West of the Mississippi the mounds stretch out in gradual interchange with the buildings of Mexico.

Here, then, we have a continual line of them from British Columbia, through all of the Central and Southern States, to Mexico, always in "pleasant places."

II. Of what do the mounds consist? Time and climate having beaten on them for several centuries, all—whether originally made so or not—have become rounded and covered with earth and grass so as to give the appearance of natural hillocks, which originated the name. But the shapes, as already mentioned, have since been found to be very varied, as well as very exact in their measurements, when they reach the Central States. In these States they are not only much larger, but are also surrounded by earth-works, as though for defense, having apparently made permanent settlements and finding to their cost warlike Indians on their northern and eastern sides ever ready for unheralded attacks. The embankments are sometimes around single mounds, which would possibly have been a temple or important building; some are around a cluster, evidently enclosing a village or town; a ditch or fosse is sometimes

*Harcot's Virginia.

inside, sometimes outside, undoubtedly a double guard to a temple or a cemetery, to their crops, or to a circle for their national games. Lines of embankments, from five to thirty feet in height, enclosing from one to fifty acres, are very common; those from one hundred to two hundred acres are often found, sometimes even four hundred acres. At Piketon, Ohio, is a distinctly graded way; at Marietta, Ohio, is a raised square with projections from the center of each side, as if causeways leading from entrances; at Newark, Ohio, when first discovered, mounds were found over an area more than two miles square, and still showed an embankment, from two to twenty feet high, of twelve miles in length. The material which was used in building was evidently that nearest at hand. Being an agricultural people, they would fell trees to clear the land, and use the wood to make palisades or pillars to support the foundations of earth, or to frame into the lintels of the doorways. "On the coasts of Florida the houses were built of timber, covered with palm leaves and thatched with straw. Those further inland were covered with reeds, in the manner of tiles, while the walls were extremely neat. In the colder regions, a little farther north, every family possessed a house daubed inside and out with clay for a winter house, and another open all round for summer. The houses of the chiefs were large, had piazzas in front and in the rear, with cane benches of comfortable dimensions. They also had lofts, in which were stored skins, mantles and corn. In one house was found a tabor with golden bells. One remarkable temple, one hundred feet in length and forty feet in width, with walls high in proportion, had a steep roof covered with mats of split cane, interwoven as compactly as the rush carpeting of the Moors. The temple was entered by three gates, at each of which were stationed gigantic wooden statues, presenting fierce attitudes. Some were armed with clubs, maces, canoe paddles and copper hatchets; others with drawn bows and long pikes. All were ornamented with strings of pearls and bands of copper. In niches round the walls were wooden figures of men and women, natural size; on the sides of the walls were large benches, on which lay the boxes containing the dead chiefs and their families, with their families below them, shields of various sizes between them. Chests with valuable pearls and valuable mantles of feathers were in the center of the building, as well as in an adjoining store house."* If all these wooden buildings have long since disappeared, how much more reasonable that the house which their ancestors had used and forsaken further north, centuries before, are entirely dissolved into their mother earth, with most of their human occupants.

At Seltzertown, Mississippi, is a mound six hundred feet long,

*Bartram's Travels.

four hundred feet wide, forty feet high, its level summit having an area of four acres; there was a ditch around it, and near it a smaller mound. "The north side of this mound is supported by a wall of sun-dried brick two feet thick, filled with grass, rushes and leaves." Here were also angular tumuli, with corners still quite perfect, "formed of large bricks bearing the impression of human hands." In Louisiana, near the Trinity, there is a large enclosure "partially faced with sun-dried bricks of large size."*

Again I suggest that if bricks were found there, they were probably the material used with wood and earth in the buildings farther north, put up by an agricultural people and forsaken by them centuries previous, when forced to move south, either from internecine quarrels or incessant attacks of their wild enemies.

Within the mounds have been discovered many articles of domestic as well as war-like use, of religious worship as well as personal adornment; and in this investigation it must be remembered that the "Indians" have roamed at will over these lands during the many centuries since the builders left them, hunting and fishing, lighting their fires and burying their dead, no doubt with some admixture of the knowledge and of the customs they had seen and the companionship of the prisoners they had taken. Amongst the variety of articles found are, of course, the universal arrow-heads; some of them of fine workmanship, cut in jasper and chalcedony, as well as obsidian and chert; spears and knives, chisels, axes, awls. At Salline River, near Salt Springs, kettles have been found, which were evidently moulded in basket-work, for the pattern on them is very regular and ornamental. Pottery is everywhere. In Missouri were found water-coolers, having human figures with intelligent faces, not of the Indian cast of countenance. Pestles and discoidal implements of exact finish are abundant, and in Professor Cox's collection at Indianapolis is a piece of amber-colored translucent quartz, which some one has described "as being symmetrically grained and polished in a way that would now require a wheel and diamond dust." In some mounds have been found pieces of fabrics which, though coarse, are woven with care and regularity, with threads of uniform exactness, for the making of which are also found the shuttles of various sizes, well finished gauges and weights to regulate sizes and keep the threads taut.

Did any "Indian" found here since the conquest have such things in use? If natives were discovered at such work they must have been descendants from the civilized races, not of the Indian stock.

One or two still more remarkable things have been turned up from mounds in various parts. In the mound in Virginia were

*Baldwin states this on the authority of Dr. M. W. Dickeson.

many specimens of mica. The only mines for mica were in North Carolina.

From the mounds have also been dug up quantities of copper and copper implements and ornaments all over the country. Moreover it is always one peculiar kind of copper, having spots of pure silver studding the face of it, as if welded to it—not alloyed with it. Copper of this peculiarity is found only in the copper beds of Lake Superior. No settlements have been found near the mines of Lake Superior. The geological report to the national government describes these old mines as being chiefly surface work—that is, the surface of the veins was worked in open pits and trenches. The Minnesota mine, in Upper Michigan, was only excavated thirty feet, and here “Mr. Knapp discovered a detached mass of copper weighing six tons. It lay upon a cob-work of round logs or skids, six or eight inches in diameter, the ends of which showed plainly the marks of a small axe or cutting tool. They soon shriveled when exposed to the air. The mass of copper had been raised several feet, along the foot of the lode on timbers, by means of wedges.”* This was in 1848, and old trees, showing 395 rings of annual growth, stood in the debris, and the fallen and de-ranked trunks of trees of a former generation were lying across the pits. In Michigan, also, were the garden beds for the quick growing supplies of summer food. Is not the inference clear that the “Mound-builders,” having found these mines on their journey south, and requiring such material, would send up every summer a party of workmen for their supplies; and, being an agricultural people, yet needing the copper for their implements, they would manifest exactly what one writer expressly says of these Michigan mines, “The old mines everywhere show the same peculiarities of both knowledge and lack of knowledge.”

The different material of which the mounds are formed, as well as their shape and their relative position, show their different intent and purpose. While some were city buildings, or residences of the rulers, or temples, others were altar mounds, which were of burnt clay, of fine material, and often brought from a distance. At Mound City, Chillicothe, Ohio, there were found two layers of limestone, chipped in the form of discs and spear-heads, six hundred of them. They must have been a costly offering, brought from a distance and fashioned with care.†

It has ever been the custom with civilized people, as well as barbarians, to bury articles of value with the dead. The Scythians, the Egyptians, the Indians, the Aryans of the Vedas, the Jews, the Greeks, the Christians, all have done it. We find it no less among the Mound-builders. All did it, according to the customs of race, from the old Chaldean scepter, the Egyptian

*Baldwin.
†Short.

obolus, to pay the trip across the black lake, down to our present funeral wreath; changed in token and in signification, but nowhere broken in historic sequence. Therefore, it is as much a sign of civilization as of a wild Indian to find the links of earthly habits laid beside the bones of the Mound-builders, when their spirits had fled to the Happy Land.

III. What do the mounds resemble? I have already pointed out the importance of remembering the effect of time and climate, especially in this country, when sun and air seem to take more rapid effect, both in growth and decay of the natural world, than in other parts, and supposing these mounds were left eight hundred or a thousand years ago, is it wonderful no more evidence of their inhabitants is left? In approaching the south and towards Mexico, where they mix with the stone-building nation from Central America, walls and ruins are still standing. Moreover the southern settlements were probably the latest in existence. If it be asked why no remains of masonry and stone-work are to be found amongst the ruins of the mounds in the Central and Southern States, the answer is that a pastoral people were not hewers of stone; and for the reason that their sites were in agricultural lands and they would not be where stone quarries were available. In this country wood in abundance was at hand; but when the settlements were left it would decay, and if bricks were used they, too, would crumble into dust. Now, if we look back to ancient history and its modern evidences in Asia, we find in Persia now the remains in stone of the pillars and supports of the great palaces of Xerxes and his predecessors; while in Assyria, where there was so little stone, it is satisfactorily proved that trees were carved into pillars and used as a substitute for the more durable material in exactly similar palaces. In Assyria only the indistinct outlines are to be traced, in Persia the exact position and proportions are known.* It was customary in the Asiatic countries also to build the cities on an elevation, sometimes the whole city surrounded by an embankment and a deep ditch; sometimes only the palace, the temple and the important buildings were elevated. When Layard first found Nineveh it was only a varied accumulation of mounds, though of course in that instance some of the solid foundation was beneath. Yet it was only the great cities which had such durable foundations. Many a mound that marked an ancient dwelling has been tramped over unnoticed by the armies of the successive nations that have held sway over the great belt of Central Asia. Here then a pastoral people came to dwell, and to imitate in their way and with available means the dwellings of their own old lands, or of the haughty nations in the midst of whom their ancestors had lived, only the wild native and the wild nature had in their

*Fergusson.

fitful moods obliterated by degrees the tangible proofs of such existence, and left only the mounds of earth in their place.

Professor Davidson says he has seen arrow-heads from the eastern hemisphere exactly similar to those of the western. Other implements found here are exactly such as are described in use by the ancient nations of the orient.

If the natives of the south, when DeSoto first invaded them, were dwelling in cities built on mounds, with wooden stairways, supports, etc., and having large stores of corn, of oil, of honey, as well as of woven fabrics, of copper and of pearl, and if some of them have traditions and picture writings of long wanderings and various settlements, is it not within the narrowest limits of probability, if not actual proof, that their immediate ancestors were our Southern Mound-builders?

In glancing over the histories of ancient races, we find that colonies from all of them went off and broke away from the mother country, settled for a time; then if not suited went on again to more favorable localities; founded a nation, flourished and decayed. Some plague spot within or some inherited fatality brings internal feud or external destruction, or the fatal effects of luxury bring effeminacy and degradation, rendering them an easy prey to far less civilized neighbors, who exterminate or enslave them; the remnant that escapes seeks for a new home, and with renewed energy builds up a faint reflex of the old glory. So it has been with those of whom we know; why should it not be so also with this people, of whom the records have been lost?

THE INDIAN MESSIAH AND THE GHOST DANCE.

BY WARREN K. MOOREHEAD,

From the beginning of time it has been the custom of nations held in bondage, or persecuted, or borne down by affliction greater than they could bear, to appeal for Divine aid. When a people in distress have called in vain upon those stronger and richer than themselves for assistance, what is left to them except to go to Him who rules over all and beseech that He intercede in their behalf. As it has been with other nations that have existed upon the earth in ages past, so it is with the remnant of the once powerful Sioux nation, now located upon almost barren tracts of land in the States of Dakota. These people, having been reduced to the verge of starvation by the loss of their property, have been able to keep life in their bodies only by the slaughter of the herds of cattle with which, by years of care and attention, they had stocked their reservations. Persecuted, defrauded, repeated deceived, they have hailed as a means of escape from the ocean of troubles which seemed ready to engulf them all alike—the chief and the half-breed, the child and the woman—the advent of their Savior.

A hunting party returning from a visit to the Utes and Arapahoes, in distant Utah, brought the first news of the coming of the Indian Messiah. They had met in their travels a man named Johnson Sides, whose labors among the Utes and the other mountain tribes exerted a powerful influence. He told the simple story of the Savior and His resurrection in a way that the Indians could readily understand. He wasted no time on theological discussions; but introducing the Scriptural parables in the form of fables, and drawing comparisons between these parables and some of the traditions of the Indians, became more widely and favorably known than any other preacher in the entire west.

This hunting party reached Pine Ridge reservation in July, 1890, and immediately instituted a series of dances which were so singularly enticing that none of those who witnessed them could refrain from taking part. The news spread like wildfire; and the ghost dance was organized and adopted by all the tribes from the Chinooks, far up in British Columbia, to the Shawnees and Kickapoos, in the Indian Territory. No other tribe entered into the dance with such spirit nor believed so firmly in the coming of the Savior as did the Sioux. At first the dances

were held in secluded places upon the reservation, and only a few joined in them; but it was not long until nearly all the five thousand Indians located upon the reservation became so infatuated with the new doctrine that three large camps were established upon Wounded Knee, White Clay, and Medicine Root Creeks, and for two months the weird, semi-religious, semi-barbaric ceremony was kept up. They danced night and day until, from sheer exhaustion, many of the converts actually fell to the ground fainting and almost lifeless. From a mere form of worship the dance soon developed into a warlike demonstration. The fanatical converts to the new religion began to pillage the houses of those who refused to join them in their orgies, to steal cattle and to burn ranches. The excitement increased to an alarming extent. Settlers left the border and flocked to the various towns along the railroad. The agent's home was surrounded by threatening savages, and for a few days it looked as if a conflict—a massacre—was inevitable. The agency authorities telegraphed the War Department for aid; troops were hastily ordered to the front, and now Pine Ridge, Rosebud and Standing Rock agencies are under military control.

When the Messiah dances were at their height I left for the agency, trusting that material of ethnological value could be gathered. It was an excellent opportunity to study Sioux folklore, and I was more than repaid for the several weeks spent in the Indian camps upon the reservation.

The largest camp of dancers was located upon Wounded Knee Creek, under the charge of Chiefs No Water, Short Bull and Little Wonn. A large, level tract of prairie near the Tepees was carefully prepared by the squaws. A pole or sapling some thirty-five feet in height was erected, to the topmost twigs of which was attached a white flag. The base of the tree, to a height of five or six feet, was covered with hundreds of rushes and reeds plaited together with the greatest of care. These gave the sapling the appearance of a tree which one frequently sees in a cultivated field in harvest time, with a shock of wheat or corn bound around it. The squaws also built near the dance ground several lodges almost air tight, which were to be used as sweat houses, separate structures being provided for the women. Every person wishing to join in the dance was compelled to divest himself of his clothing and enter one of these tepees, some eight or ten persons being crowded into each house. A fire was built near at hand in which stones were heated. These rocks were placed within the lodge and a bucket of water poured over them. Clouds of steam arose, completely filling the structure. This operation was continued as long as the subjects could bear the confinement. When they issued from their baths attendants quickly threw blankets over the perspiring forms. Returning to their homes the converts dressed

in plain clothes without any ornamentation whatever, save an eagle feather stuck in the hair.

A priest or medicine man accompanied by four assistants and the village crier (whose business it was to announce all important events, speeches and councils), advanced to the sapling. Stationing themselves about the pole the crier called aloud to those who wished to participate in the dance to come forward at once. In obedience to the commands of the priest, several hundred men and women crowded up and, grasping hands, formed a circle fully two hundred feet in diameter. While they delayed the priests began a prayer to the Great Spirit; the following is a literal translation of one of the supplications:

"Great Wakantanka:* We are ready to begin the dance as you have commanded us. Our hearts are now good. We would do all that you ask, and in return for our efforts we beg that you give us back our old hunting grounds, and our game. Oh, transport such of the dancers as are really in earnest to the Spirit Land far away and let them there see their dead relatives. Show them what good things you have prepared for us and return the visitors safely to earth again. Hear us, we implore."

At the conclusion of the prayer the priests begin a doleful chant, which is taken up by the assembled multitude and loudly sung over and over again. The circle moves towards the left. For the first half hour the motion is a short step, not more than ten or twelve inches, accompanied by a bending of the knees. None of the dancers jump up or down until another prayer has offered. The following words will acquaint the reader with the nature of the songs:

Ate he ye lo. Canupa wan ci ci ca hu pi ca yani pi kte lo. Ate he ye lo. Ate he ye lo.

TRANSLATION.—My son, smoke and you will live. Come to the sacred tree. This the Father says, this the Father says.

After the space of half an hour the crier calls aloud and the participants pause.

"Weep for your sins," commands the high priest. Accordingly the Indians set up a most horrible wail. They moan and cry, rolling upon the ground, apparently in great agony. Some of the more desperate ones crowd up to the sapling (which is called in their language a sacred tree) and thrust little gifts and tokens between the rushes. Others cut their arms and wipe the blood upon the reeds, or detach small pieces of flesh from their sides, and stick these bloody tokens among the bindings. The scene is most impressive. Surely the Sioux are serious in their grief, for it is scarcely possible that men and women could feign in so natural a manner, such sorrow, such repentance. Grim

*The Sioux term for their God or Great Spirit.

warriors, determined men to whose eyes tears had ever before been strange, will elbow their way through the crowd about the tree, and with heaving breasts and sobbing voices plead that Great Wakantanka forgive them for all their wickedness.

After these paroxysms of grief comes an intermission. The priests harangue the converts and exhort them to be of good heart, to hesitate not in the ceremonies. A new song is struck up (for they have several ghost dance songs), and again the circle moves toward the left. The dancing becomes fast and furious. The men and women leap backward and forward. They seem possessed of the spirit of demons. Presently one or two, delirious with excitement, may break away from the dancers and go staggering across the plain. A woman reels against a tree near the creek, where she stands moaning and gasping. A youth throws himself headlong upon the ground with such violence as to cause great fears for his safety.

Meanwhile the priests are extremely active. They run from one excited dancer to another, gently compelling all to lie prone upon the earth. They wave an eagle feather (the symbol of holiness and purity) in the face of the subject, stare very fixedly at him and mutter incantations over his prostrate form. Undoubtedly the priests exercise an influence akin to mesmerism or hypnotism upon the distracted mind of the weary dancer. One Indian who had danced twenty-seven times told me: "The priest looked very fixedly at me. He stared into my eyes like a snake, and then I knew no more." Of course the exhausted mind of the savage is in a fit condition to receive impressions of visions, to fall into trances or behold strange scenes in the spirit land.

The scene of a ghost dance at night makes a vivid impression upon the mind. The music in its strange wild key rings in the ears for days, while one can never forget the reeling figures, the earnest, expressive faces.

When the dance has been carried on for several hours, the priests arouse some of the sleepers and secure from them accounts of what they have beheld in the spirit land. This information is heralded by the crier, the chant being subdued almost to a whisper while he speaks. The visions are strongly alike in general character, although varying somewhat in detail. Following is one which The Weasel claims to have seen:

"When I fell to sleep the music of the dance became fainter and fainter until it entirely disappeared. Then a great eagle came, and, sticking his talons in my clothes, carried me away many miles into the skies. Suddenly we came upon a fair land and the bird halted by a stream, where there was a lodge made of rushes woven very tightly and neatly. In this lodge, the bird said, the Great Wakantanka was hidden, and that the Messiah would come forth at noon. I must wait, he said, until the Savior

would appear. So I sat down upon the banks of this fine little valley and waited. Presently there came forth a white man with a long beard. He showed me holes in His hands and feet, and said that the whites had made these wounds. He said that He would never appear to the whites again, that if the Indians would continue the Messiah dance He would appear to them the next summer, and that upon His appearance the world would come to an end. Then he showed me a large village, larger than I ever saw in my life. The teepees were all constructed of buffalo hides, and resembled those we used to have in the happy years long since passed. Men and women, relatives of mine, rushed forward to greet me and embraced my neck, crying and sobbing, meanwhile, with joy at my coming. The people conducted me to a large council house, where choke-berries and buffalo meat were prepared and served. After eating I was shown great herds of elk and buffalo. The Good Man told me to return to my friends, and relate what I had seen in his beautiful home. The earthly people must dance and pray and wait, He said, until His coming. We were not to make use of guns, nor were we to fight. The Messiah Himself would come to our aid and perform for us deeds that powder and ball could not. Then my relatives bade me farewell and I was borne to earth again by the great eagle."

Day after day the faithful dancers dragged their weary bodies about the circle. They saw visions. They prayed as never man prayed before. With tears, fastings and self-inflicted tortures, they called in despair upon their Messiah. He answered them not. Then they threw aside all restraint, and became almost frenzied. They began to menace life and property. They disregarded the visions, the teachings of peace and submission. The true Indian asserted itself. He is a born warrior, not a priest, not a convert to a new religion. When he discarded the teachings of Wakantanka and substituted his own feelings of revenge upon the white race, he called down upon his head the wrath of the Government at Washington. With the entry of troops into the reservation came the flight of the hostiles into the Bad Lands. Two months of peace-parties and councils followed, and then came the fearful battle of Wounded Knee, in which very nearly one hundred and eighty Indians lost their lives. This Wounded Knee massacre—for it really was a massacre—so Louis Shangrau told me, was precipitated by some fanatical Indian warrior, on whose head, to some extent, rested the awful responsibility for the slaughter of women and children. The troops had surrounded the Indians and were engaged in disarming them, when suddenly an excited youth shot one of the foremost officers. As the report of his Winchester died away, the other Sioux, with knives and war-clubs, Winchesters and revolvers, rushed headlong upon the Seventh cavalry. In

less than half an hour there scarcely remained a live Indian in that once large camp presided over by Chief Big Foot. Soldiers anxious to revenge the death of the old commander of the Seventh (Custer) pursued women and children who were fleeing across the plain in a vain effort to escape extermination. One slender boy but twelve years of age, as innocent a child as ever graced the home of a fond father, be that parent white or red, while fleeing in the direction of the agency was pursued by a burly ruffian. The soldier ran swiftly after the little fellow, and upon reaching a convenient distance knelt down and with cruel, deliberate aim shot the child through both hips. The boy lived long enough to be taken to the hospital at Pine Ridge and tell his story in the presence of three women, Deputy United States Marshal George Bartlett, and others.

Let me give one other instance of the cowardly action of the troopers of the "Gallant Seventh." There were twenty-six children *under the age of thirteen years* killed at Wounded Knee! There is not the slightest excuse to be offered, nor is there just cause for the shooting of these children. Women were pursued and shot down the same as if they were men. Four babies were found on the battle-field with crushed skulls, showing that they had been struck on the head with either the butt of a musket or some heavy club.

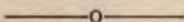
Is it any wonder that nearly all the "friendlies" gathered about Pine Ridge agency fled in dismay toward the Bad Lands when terrified couriers brought in the awful news a few hours after the massacre had been completed? They were apprehensive lest they should meet a like fate.

To add to their great terror the Indian police stationed about the agency buildings opened fire upon the camp of Two Strike and Crow Dog, located just south of the agency buildings. Chief Red Cloud's small frame house was in line with the shots and bears testimony to the accuracy of the police's aim, for there are some fifteen or twenty bullet-holes in the weather-boarding. Gen. Brooke issued orders as soon as possible, causing the cessation of the fire, but not until considerable damage had been done.

A few days after these incidents all the Brules and Oglalas were brought into the agency. Since that time peace has reigned. The evening of the 5th of February some of the prominent Indian Chiefs from Pine Ridge and Rose Bud were present at Christ Reformed Church, in Philadelphia, to speak to citizens of the city regarding their wrongs. They had just come from Washington, where a lengthy council had been held with the officials of the government. Attending the meeting in Philadelphia, I secured a lengthy conversation with Louis Shangrau, the interpreter of the party, himself a noted scout and frontiersman. He said, quite pathetically, that but little

had been done either to increase rations or to pay for the stock and grain lost by the Indians during their long confinement near the agency headquarters. That the Sioux felt very much discouraged, having lost nearly all their possessions, that they hoped to make one more appeal to the Great Father in behalf of their starving relatives; that they would ask for schools and farmers, for herders and other instructors in the arts of civilization; that if this last request was refused he did not know what else they could do but to return to Pine Ridge and there eke out a miserable existence.

Is it not possible that the great lessons that both Indians and whites have learned during the past few months may be employed to good advantage? Cannot a peace policy be instituted, education be made compulsory, and above all, why not eliminate politics forever from the Indian Bureau? If this is done the Sioux will take heart again and continue to advance until they shall have become cultured and refined citizens of the United States. If the policy that has characterized all past administrations be continued we can hope for nothing but a rich harvest of misunderstandings, of murders, assassinations and massacres. Why not, by patience and just legislation, by honest watchfulness over our Indian wards prove that humanity on the part of the civilized will secure and retain peace with the savages, who are our wards.



EGYPTIAN ARCHÆOLOGICAL DISCOVERIES.

The London Times' Cairo correspondent says respecting the archæological discoveries at Dier Elbahari that the same disorder reigns among the contents of the tombs as was found when the famous royal mummies were discovered nine years ago. Sarcophagi were piled upon sarcophagi, and alongside were boxes, baskets of flowers, statuets, funeral offerings, and boxes crammed with papyri. There is every indication that the place, though originally constructed as a vast tomb, was chosen for hurried concealment in time of tumult. The contents of the papyri are as yet unknown, but it is hoped that they will reveal important historical matters. The mummies were priests and priestesses.

THE STORY OF THE MOOSEWOOD MAN.

BY REV. SILAS T. RAND.

Away in the woods dwelt a young woman alone. She had to depend upon her own exertions for everything. She procured her own fuel, hunted her own food and prepared it. As she had no comrade she was often lonely and sad. One day when gathering fuel she cut and prepared a *noos-a-gun*, a poker for the fire, of *minkudowok*—moosewood—and brought it home with her. She did not bring it in the wigwam, but stuck it up in the ground outside. Some time in the evening she heard a sound as of a human voice outside, complaining of the cold.

"Numus, my sister, *kaoochee*, I am cold."

"Come in and warm yourself then," was the answer.

"I can not come in; I am naked," was the reply.

"Wait, then, and I will put out some clothes," she tells him.

This is soon done. He dons the robes tossed out to him and walks in, a fine-looking young fellow, who takes his seat as the girl's younger brother, *i. e.*, younger than she. (The Indians, and it is the same with the Bannocks, have a word for a brother older than the speaker and another to designate a brother who is younger than the speaker. Sisters are distinguished in the same way.) The poker she left standing outside the door had been metamorphosed, and proves a very beneficial acquisition. He is very affable and kind, and withal a very expert hunter, so that all the wants of the home are bountifully supplied. He is named *Minkodowogook*, from the wood from which he sprang. After a time his female friend hints to him that it would be well for him to seek a companion. "I am lonely," says she, "when you are away. I want you to fetch me a sister-in-law." To this reasonable suggestion he consents, and they talk the matter over and make arrangements for carrying their plans into execution. His sister tells him where to go and how to pass certain dangers. "You will have to pass several nests of serpents, but you must not fight them nor meddle with them. Clap one end of your bow on the ground, and use it as a pole to assist you in jumping, and leap right straight across them." Having received his instructions, he starts on his journey. After awhile his sister becomes lonely from the loss of his company, and resolves to follow him. To give him warning she sings, and he hears and answers her in the same style, instructing her to go back and not come after him. She does so. He goes on until

he comes to a large Indian village. He follows his sister's instructions, and enters one of the lodges.

There, as he had expected, he finds quite a bevy of girls and one—she is the youngest of the group—who excels in beauty. He walks up and takes his seat by her side. This, as she remains seated and the parents' silence show their acquiescence, settles the matter and consummates the marriage. The beauty of his countenance and his manly bearing have won the heart of the maiden and conciliated the esteem of the father. But the young men of the village are indignant. The young lady has had many suitors, who have all been rejected, and now to see her so easily won by a stranger—this is outrageous. They determine to kill him.

Meanwhile his father-in-law tells him to go out and try his hand at hunting, and when he returns successful they will prepare a festival in honor of the marriage. So he takes his wife with him and his father-in-law's canoes, and pushing up the river to the native grounds, following the directions given by the old man, they come to a steep descent, and push up through the rapids, land and construct a temporary hut, and he goes into the hunting business in earnest. He is at home in that occupation, and before many days he has collected a large amount of furs and venison and is prepared to return. But a company has been formed to cut him off and rob him of his prize. A band of young men in the village, who are skilled in magical arts, have followed him and reached the place where he has pitched his hut. But now the trouble is how to proceed. They dare not attack him openly, and as to their wives he may be able to outdo them. But they adopt this plan: One of them is to transform himself into a mouse and insinuate himself under the blanket while the man is asleep, and thus give him the fatal stab. But our hero is wide awake. When the mouse approaches he quietly claps his knee on him all unconsciously, as he pretends, and squeezes the little fellow most lovingly. The poor mouse can not stand the pressure, and sings out most lustily. This arouses the wife, who perceiving that her husband is resting his leg heavily upon some poor fellow, jogs him and tries to make him understand what is going forward. But he is wonderfully dull of comprehension and can not understand what she is saying, but manages, by what seems an all unconscious movement, to squeeze the wily foe—the small mouse—more affectionately. He does not design to kill him, however, but to overcome and frighten him, and send him off. So finally he releases him, and never did a poor mouse make greater speed to escape. He carries the warning to his companions, and they conclude to beat a hasty retreat. Minkodowogook now prepares to return. He asks his wife if she is willing to take the canoe with its load back to the village alone, and allow him to go and fetch his sister. She says she is willing, and he sees her safely off. She

arrives in due time and makes a report to her father. All are amazed at the amount of food and fur collected in so short a time. They convey it all up safely to the village, and then await his return. After a few days he comes, bringing with him his sister, and the feasts and the sports commence. He is challenged to dive and see who can remain longest under water. He accepts the challenge and goes out with his antagonists.

"What are you?" asks Minkodowogook.

"I am a loon, answers the other, proudly. "But you—what are you?"

"I am a Chigumoveech," he answers.

Down go the divers, and after a long time the poor loon floats up to the top and drifts—dead—down the river. The spectators wait a long while and finally the Chigumoveech comes up, flaps his wings exultingly and comes to land in triumph.

"Let us try a game of growing," says another.

"What will you choose to be?" says Minkodowogook.

"I will be a pine tree."

"Very well. I am the elm."

So at it they go. One rises a large white pine, but encumbered himself with branches, which exposes him to the blasts of the hurricane. The other rises high, naked of limbs, and when the blast comes he always bends, but retains his hold on the earth, while his rival is overturned and killed. The stranger comes off victorious in every contest, and returns exultingly to the camp. His father-in-law is proud of him, but his other daughters, especially the eldest, are full of envy and rage.

Meanwhile our hero is presented by his wife with a fine little boy. The sister pretends to be very friendly and asks to nurse the child, but the mother declines her assistance, as she is suspicious of the ill-suppressed jealousy of her sister. "I can take care of my babe myself," she tells her. After awhile the father-in-law advises him to move back to his own native place. The jealousy of the hunters is deepening. He takes the advice and departs. His father-in-law provides him with a canoe, provisions, and weapons to defend himself with if he is attacked. He has not gone far before he is pursued and overtaken, but he is found to be as good in battle as in a chase. His foes are soon killed or dispersed, and he and his family return safely to his own land.

Correspondence.

BURIAL MOUNDS OF VANCOUVER ISLAND AND THEIR RELICS.

Editor American Antiquarian.

Perhaps you are not aware that on this island we have had Mound-builders, who have left relics behind them as stupendous as any you have in Ohio or any of those States. We have their dwellings, and behind them their burial mounds; we have, also, over the sides of their ancient fortified dwellings, their refuse heaps or cooking middens. By digging into these middens we see the sort of food this ancient people lived on, and find the implements they used—implements for hunting, fishing and of defense. These fortified dwellings are not only found along our coasts, where a point naturally strong by three precipitous sides rising sheer up from the sea is made stronger by having its land side protected by a deep moat; but they are also found inland, where they have strengthened themselves behind a bluff or overhanging cliff. Behind all these strong places their burial mounds are found by tens, hundreds and thousands. I have been opening these cairns and studying these facts ever since 1859, so I know pretty well what they are.

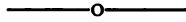
With regard to the totem posts, I have had no time hitherto to do anything further than to collect my manuscripts on the subject. In the library of our Natural History Society are drawings—I mean paintings—of a few very good and pretty ones. Although my knowledge of their carvings is of a wider range than that of most white people, yet I have a great deal to learn, because of the difficulty of obtaining their meaning from these people, and to not being used to their style of delineating the subjects of their paintings or carvings.

You ask me about their masks. The masks are a part of a Haida's panoply, to which I have not turned my attention to a great extent. The masks amongst the Haidas are of different sorts. A person who may belong to the raven crest would have a mask to put on his face with a raven's beak carved on it, to go over the person's nose; or, if he chooses, he may have a sort of helmet—a raven with its wings spread, the beak over the person's face, while the tail projected behind, a space being made in the belly-part for the head, etc. The mask or helmet may be an

eagle, a beaver, a frog, or anything, according to the crest of the parties. I once had a beautiful beaver helmet, which I bought from the Skidegat chief Kin-sing wuss for thirty dollars. It was in the shape of a circlet for the head, or, I might say, a coronet. In front was a beaver's face, while fixed in the rim all around the head were feathers and porcupine quills of various colors. Fastened to the lower part of the rim, and hanging down the wearer's back, was a broad piece of blue base, thickly covered with ermine fur.

JAMES DEANS.

Victoria, British Columbia.



A MORMON'S OPINION OF SERPENT EFFIGIES.

Editor American Antiquarian:

I see by an article in *The St. Ignace (Mich.) News* of your successful work in the line of discovering signs that "the nation of the wise," whose national emblem was the serpent, had occupied portions of Wisconsin and other important localities. In the article referred to these people are termed "serpent-worshippers." I would very much like to know upon what grounds you arrive at so strange a conclusion. So serious an accusation brought against a wise and important nation must surely have some better support than the bare existence of their emblematic mounds, and as I have failed to discover any traces anywhere of that nation having turned from the worship of the true God to their national emblem, I would like to be informed. The emblem of the tribe of Dan was a serpent. The American emblem is the eagle, England the lion, etc., yet none of these are accused of worshiping their emblem. "Be ye therefore as wise as serpents," etc. In the Scripture and in mythology the serpent is an emblem of wisdom. But in all the traditional range, hieroglyphical or imagery representations, I find no traceable evidences of such idolatry, and further not one solitary trace of existing idolatry was ever discovered, to my knowledge, among all the numerous tribes on this continent, notwithstanding the labored efforts of the early Jesuites to make such appear. Let it be remembered that, to them, all outside of the papal pale was idolatrous heresy. This was their subterfuge to justify and cover their barbarous deeds in their covetous idolatry of the gold of the innocents.

I would be pleased further to know if the deflection of both head and tail of the serpent at Rock Creek Station is toward the east, or is the tail westward of the present meridian line. If both are eastward, then there should be, say one hundred feet of the body in a straight line, and the degrees of variation from the

meridian of such line is a matter of importance, which I would like to obtain.

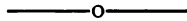
It would seem now that from these emblematical memorials, discovered at such great distances apart, that the course of migration could be easily demonstrated, as to whether the move of this people was up or down the rivers. I have an idea that it will yet appear clear that this race of the wise spread from their original home on the California coast and mingled with the original Mound-builders, whom we name Naumahmesees, and multiplied all over ancient America.

Further, I fail to find a solitary support for the idea advanced by so many writers that these ancients offered human sacrifices, beyond the offering up as sacrifices the criminals who, according to their laws (and ours also, for that matter), ought not to live. Europeans may have burned their distant successors at the stake as heretics, foreign invaders may have practiced the abominations, but the Naumahmesees held life as a sacred gift from God and their land was named peace.

Yours truly,

E. S. CURRY.

Christy, Howell County, Missouri.



THE LAST OF THE APALACHEES.

Editor American Antiquarian:

I give you a little item of recent research. Dr. M. A. Dunn, of Grant Parish, Louisiana, informs me that there are three full-blooded Indians of the Apalachee Tribe now living in that parish; that they have negro wives, cannot speak one word of their ancestral tongue, which, they claim, is lost to them, but only English and French, as they were brought up by the French people. These three degenerate Indians, my friend thinks, are the last remnants of the once powerful and warlike tribe of the Apalachees, that, three centuries and a half ago, made such a fierce opposition to the armies of De Narvaez and De Soto, in the wilds of Florida. *Sic transit gloria.*

Crawford, Miss., March, 1891.

H. S. HALBERT.

Editorial.

THE TOUCH OF CIVILIZATION AMONG THE MOUND-BUILDERS.

The subject which we have taken for this chapter is one over which there has been much controversy and concerning which there is even now much difference of opinion. The civilization of the Mound-builders at one time was supposed to be nearly or quite equal to that of the ancient races, and the expectation was that the people would be discovered as immigrants into this continent who were identical with some of those known to history. Theories were advanced as to the Phœnicians, the Babylonians, Egyptians; and resemblances were traced in the relics and pottery faces which aroused imagination and gave rise to much conjecture. The opinion became wide-spread that the lost tribes had gained a home in this distant land, and from this came the strange delusion of that immense system of imposture, the Mormon religion. Latterly the thought has gone to the other extreme. The civilization of the Mound-builders has been confounded with that of the wild Indians. All civilization has been denied them; their works and relics have been ascribed to the various tribes which had their abode on the land where they are found, the difference between the earlier and the later tokens completely set aside and new tokens have been dilligently sought for, until it has become a fixed conclusion with many that the cult of the Mound-builder and the Indian are exactly identical, and the two classes of people exactly the same.

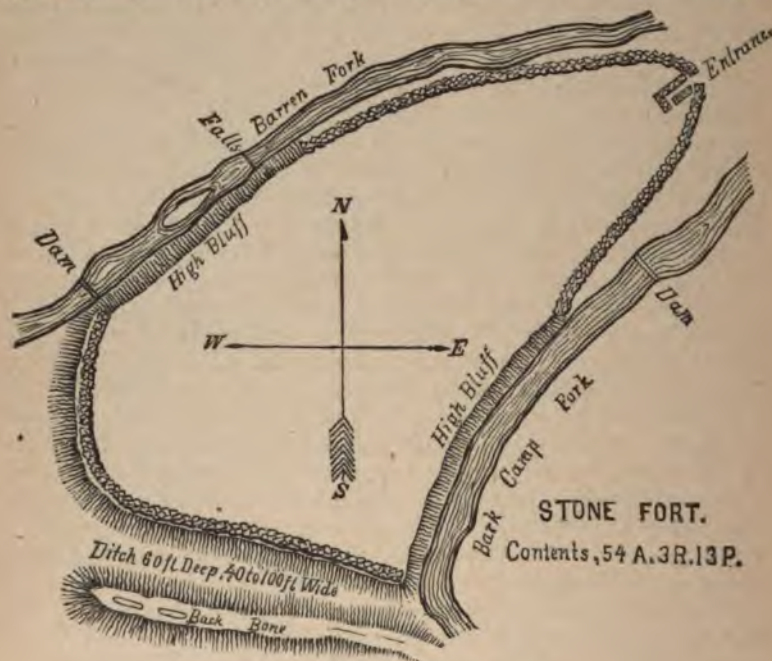
Now, we have no especial controversy with the advocates of this theory, but desire to present a few facts which will show that there is another side to the question. We believe that the migration of the Indians would preclude all dogmatic assertion as to the identity of the Mound-builders with any known tribe; that the succession of periods of occupation also requires us to separate the tokens from one another, and distinguish between the works and relics of the early and later people, and that the interests of science demand that we still keep our minds in suspense as to the question whether there may not be hidden away in the depths of the mounds the evidences which will yet prove a contact with civilized races during pre-historic times. Strange reverses take place. The case has not gone so far but that a

single discovery well authenticated might turn the scale back; and the conviction would become strong that the touch of civilized man was still to be recognized. We are aware that at present all such evidences are immediately explained away as soon as they arise, and the advent of the white man is regarded as sufficient to account for every strange thing; but when winged figures and other tokens are taken from the depths of pyramid mounds, when bastion forts are associated with ancient burials, when eastern symbols are found in the midst of western relics, and the strangest contrasts are manifest between the finished ornaments and the rude relics, and so many tokens come before us which seem out of place when in the hands of any Indian known to history, we must pause and think twice before we deny the assertion that possibly these came from contact with some foreign country in pre-Columbian times.

In reference to the question whether civilization actually obtained among the Mound-builders, we would say the term is an indefinite one. Technically speaking, we suppose that no American race could be called civilized. Civilization came in with the iron age, and so belongs only to the historic races. In America the people were chiefly in the stone age, though bordering on the bronze. Still we have fallen into the habit of calling some of the American races civilized, and we see no good reason for discontinuing the term. The inhabitants of Peru and Central America, as well as those of Mexico, are supposed to have reached a stage of civilization which, were it not for the absence of iron, would overlap the early conditions of the historic lands, and it does not seem wise to make ourselves so arbitrary as to deny the word to them. The Pueblos and other tribes of the great plateau were in a stage of advancement which warrants us in calling them semi-civilized, and yet the Pueblos never passed through the bronze age, and so far as we know were even without the use of copper. The Mound-builders and the people of the Mississippi Valley would naturally be called uncivilized, and yet some of them seem to have been so far advanced that it is a question which exceeded, they or the Pueblos of the west. The Indians are generally called savages, but many arguments have been advanced to prove that they were fully equal to the Mound-builders, and the name is freely applied to the Pueblos and even to the civilized races of Mexico and the Central provinces. It seems to be, then, largely a question of words. If we confine civilization to the historic countries we certainly cannot ascribe any degree of it to the Mound-builders. If, on the contrary, we use the term Indian to mean what Columbus discovered, we might take in both continents and call all the inhabitants of the East and West Indies and of North and South America all Indians; but it seems better to take the words in the popular sense, and then speak of the American race as we do of the Asiatic or of the

European: to admit that there were different grades of civilization existing among them.

The point that we make is that back of the Indians' comparative rude condition was the higher condition of the Mound-builders, but back of the Mound-builders was a civilization which so closely resembles that found in historic lands as to give rise to the idea that it may have originated in those lands. We do not undertake to say how it came into this far-off region nor by what routes, and yet it does not seem possible that the resemblances could be so great unless there was a filtering at



Stone Fort on the Tennessee River.

least of these old time-honored conditions. The routes may indeed have been from different directions—the pyramid-builders from the far southwest, and originally from the distant Asiatic coast; the serpent-worshippers from the distant east or northeast, and originally from the European continent; the tomb-builders and hunters from the northwest, and originally from the Mongolian regions; the military classes and the villagers of the central district may either have come from the northwest or the northeast; yet whatever the route, and howsoever distant the original source we can not fail to see very close analogies. The supposition with some is that these are merely accidental; they are all to be accounted for on the ground of parallel development. But to others they have been so striking as to give rise

to the strangest theories, concerning which we have spoken. This is to be considered, too, in this connection, that the farther back we go the more striking do the resemblances seem. These resemblances are, to be sure, explained by some as the result of very recent contact with the white man, but by others as the result of pre-Columbian contact with foreign countries, and this seems to us the more reasonable explanation.

It is noticeable that we have not only the modern-looking forts, such as the one on the Tennessee River, with bastions scattered along its walls at intervals of about eighty yards, and with re-entering angles exactly like the European forts, but inside of the enclosure we find the earth pyramids and regular burial mounds, which in all respects resemble the Mound-builders' works. In the same region we also find stone forts, built after an aboriginal pattern, with gateways arranged in angles similar to the Toltec gateways. See Plates. We have also from the same region pottery, containing many portraits, which remind us of nearly all the civilized races, but among these faces are others which are purely aboriginal. We find in the southern district also various ornamented banner stones, with the Greek fret plainly depicted on them, but more exact ornaments of the same pattern are found in the pottery vessels from the Moqui pueblos in Arizona, and still more exact patterns and regular figures may be seen on the front of the Governors' House in Uxmal, in Central America. The looped pattern may also be seen on the pottery of Mississippi, as well as on the various shell gorgets of the stone graves, reminding us always of similar patterns common in civilized countries. We find tablets and gorgets which contain all of the symbols common in oriental lands, such as the cross, the suastika, the fire generator, the serpent, the tree, the crescent, the sun circle, the horse shoe, the owl and the dragon; but with these are figures purely aboriginal, and which could not have originated elsewhere than among the Indians. We find in one case—in the Davenport tablet—incribed figures which, if genuine, prove a phonetical alphabet to have been known, but in the Thruston tablet the figures are so extremely rude as to give rise to the idea that none but an Indian could have devised and inscribed them. The winged figures spoken of as found in the Georgia pyramids remind us of historic and oriental art forms, but the relics from the same mound resemble only native workmanship. So with all the works and relics, a strange mixture of foreign patterns with native execution, always suggests to us that in some way the touch of civilization was still preserved, notwithstanding the prevalence of barbarism or savagery on all sides.

ARCHÆOLOGICAL NOTES.

VALUABLE ARCHÆOLOGICAL FIND IN AN ARIZONA VILLAGE.—Crittenden (Ari.) Letter in *The Philadelphia Times*: While removing earth for the foundation of the new hotel to be erected by Harmon & Brooks, of this city, there was discovered what seems to be the tomb of a king, though of what people it would doubtless puzzle an antiquarian to say. The workmen had penetrated, at some eight feet below the surface of the ground, what they took to be stone of a soft, friable nature, but which was evidently masonry of superior workmanship when they reached the tomb itself. This was composed of large square blocks of stone, which was identified as red or rose granite, and cemented together with such skill as to at first cause the whole, measuring 12x15 feet, to appear as a solid mass. The opening of this, while very difficult, as the use of powder was prohibited by Mr. Hendrickson, who, as a learned archæologist, was placed in charge of the exhumation by the authorities, was accomplished by night, when the interest and curiosity of the party was so great the work was continued by lamp-light till dawn.

The tomb when opened was found to contain a gigantic image of a man lying at full length and made of clay mixed with a sort of preparation which gives it a bright blue color and a slight elasticity, the whole appearing to have been subject to great heat. The image represents the naked figure, except for a very tight girdle about the waist, a pair of close-fitting sandals, and a crown on the head shaped very much like a bishop's miter, but topped with the head of a hawk or eagle.

The features are roughly moulded, are of an imperious cast, and of a man in middle age, with a prominent nose and a very large mouth, but with cheek-bones so low as to preclude all idea that the original could have been an Indian. The hands, which are as small as a woman's and bear on the backs the head of the bird, as on the crown, are crossed on the breast and hold an image about three inches long of a squatting figure, probably that of a god. The feet are also crossed, the right presenting the peculiarity of possessing a sixth toe, which the sandal is cut to bring into prominence, as if the owner had prided himself on it. The hair of the image is dressed in thick curls on both sides of the head, reaching to the shoulders, and brought down to the brows over the forehead.

Careful examination of this clay figure revealed that it was merely the elaborate coffin of the real body, and could be opened from the back. This was done with all possible care, so as not to disturb the remains within; but a few handfuls of

dust, dark brown and almost impalpable powder, is all that was left of the body. The crown, however, together with the girdle, the image of the god, and a large battle-axe with a blade of sharp glass or obsidian and a handle of petrified wood were found in the coffin.

The crown is of thick red gold, carved with minute but well executed drawings representing battle scenes, triumphal marches and other pictures the meaning of which is somewhat misty, but in all the principal figure is that of a man with six toes on his right foot. The workmanship of the whole crown is very fine, and the bird's head on top is a masterpiece worthy of Cellini. It holds in its mouth a magnificent chalchuites or green diamond, valued by the Aztecs, which shows some attempts at lapidification.

The girdle found is composed of plates of gold, arranged by scales and very thin, so as to give with every movement of the wearer's body. On each of these plates, which is in shape a half ellipse, is engraved a figure or hieroglyphics, conveying, however, no hint of their meanings in their form. The image of what is, presumably, a god is made of clay combined with the preparation spoken of before, and also burnt until thoroughly hardened. It represents a male being seated on a pedestal in a squatting posture, its eyes squinting, and grinning in hideous mirth, while both hands are placed over the ears, as if to shut out sound. A peculiar thing about this image is that its hair is represented as hanging down its back in one long plait like a Chinaman's. The figure is hollow, but contained only a half a dozen small black pebbles, highly polished, and a somewhat larger stone of a dull gray hue. The coffin and these relics are now on exhibition at the court house, and are to be donated to the State Museum of History and Archæology at Tuscon. No clue of any value as to what race the remains are to be ascribed can be found, but it is probable that it was one antedating the Aztlan and even the Mound-builders, and superior to both in knowledge of masonry, sculpture and the working of metal.

AN ANCIENT GRAVE.—The caving of the bank of the Big River, about two miles south of this place, has disclosed an ancient burial ground. Six rudely constructed boxes, formed by setting flat stones on edge in parallel lines about twenty-nine inches apart, covered also with flat stones, were disclosed, the ends projecting from the bank some two or three feet below the surface of the soil. On examination each box proved to be a coffin containing human remains. The form of the bones could be plainly discerned by the chalky substance into which time had changed all but the larger ones. Portions of the larger bones of the arms, thighs and skulls were obtained from each of the graves in a tolerably solid condition, but the smaller bones, as soon as they were exposed to the air, crumbled to dust.

Quite a quantity of teeth were found in an excellent state of preservation, as also numerous fragments of pottery. This last circumstance determines the occupants of these silent abodes to belong to the Mound-builders, a race of men who had passed even out of tradition before the advent of the white man. The six graves were all side by side, a space of about two feet intervening between each two. Besides these, other graves have been found, justifying the belief that this is an extensive ancient burial ground. These remains of an unknown race that once inhabited this country recall other very interesting remains found on the farm of William D. Huff, near Irondale, Mo., and about twelve miles from Bonne Terre. These latter are found in a rocky glade, covered with a soft, yellowish bastard limestone, in which, many years ago, there were hundreds of tracks of human feet and of almost every animal formerly inhabiting the country. Years ago, however, the locality became known to curiosity hunters, and all the best specimens have been carried away. Among the foot-prints were those of bears, deer, turkeys, etc., as well as human feet, most of which were as perfect as if they had been made by the impression of the foot in soft mud which dried into stone; and, indeed, there are some who believe this to have been the case. Notwithstanding the great number of specimens that have been carried away, there are still many left, and to those who take an interest in such matters the locality is a highly interesting one.—*Bonne Terre (Mo.) Letter.*

A STRANGE CAVERN.—The residents of East Union, Ohio, several miles east of Wooster, are considerably worked up over the discovery of a cave near the village. J. M. Davis, Will S. Grady and Alexander Hunter, while out hunting, chased a rabbit into a burrow on a hill near the line of the Cleveland, Akron & Columbus railway. Determined to secure the game, they procured a mattock and shovel and proceeded to dig it out. After excavating the earth to a depth of about four feet they uncovered a curiously shaped stone, upon which were the evident marks of human workmanship. Examining it closely it proved to be a piece of rock resembling granite in color and nearly as hard, three feet square and covered on its upper side with rude engravings of human heads, arrows, hearts and fishes. Abandoning the rabbit, they called to their aid Peter Lawrence and Simon Buch, who were at work near by, and succeeded in raising the stone upon its edge. It proved to be about seven and a half inches in thickness, and on its under side was a rude picture of the sun, in the center of which are a tomahawk and pipe more deeply engraved. The stone itself closed the opening into a subterranean chamber, which, with the aid of a ladder and lantern, was found to be in the form of a cubical cistern (perfectly dry), ten feet high, ten feet wide and

ten feet long, carved in solid sandstone, with exquisite precision, and containing a few arrow-heads, stone pestle and mortar, the remains of a fire, and in the northwest corner, sitting in an upright position, a human skeleton, in a good state of preservation, with circlets of copper about its neck, wrist and ankle bones. Its eyeless sockets were turned toward the entrance, and looked sad and ghastly. Upon making the discovery Coroner Huntsberger was summoned, but, viewing the skeleton, refused to hold an inquest. Crowds of people are visiting the cave daily since the discovery.

INDIAN RELICS.—Eugene J. Sharadin, a clerk in the Grand Central Hotel of Reading, Pa., has a collection of Indian relics that is unique in its way. In getting this collection Mr. Sharadin has traveled in the past twenty years over 30,000 miles. Berks County was a particularly popular stamping ground for Indians in the old times, especially for the Delawares and the Shawnees, and relics of these and other tribes are found in great quantities throughout the country districts. Along the banks of the Schuylkill the relics are unusually numerous. Of these Mr. Sharadin has a marvelous collection, containing 2,000 specimens of tomahawks, axes, arrow-heads, spear-heads, beads, mortars, pestles, millstones, hammers, scrapers, war-clubs, drills and smoking pipes. The list includes nearly all the distinct varieties of jasper, agate, milk quartz, opaque crystal, chalcedony, obsidian and black flint now in the National Museum at Washington, and embraces many of the very rarest forms. The fact that these varieties were found hereabouts goes to show that the Indians exchanged goods, for rock of some of these material is not native here. Mr. Sharadin has 14,000 specimens of similar relics collected from nineteen other States and Territories other than Pennsylvania. The relics are all classified and arranged in cases according to a system of his own devising. He has spent a great deal of time and considerable money in completing his collections.—*New York Sun*.

MONKEYS ON THE NORTHWEST COAST.—Mr. James Terry, of New York, has published descriptions of three rude, life-like sculptures of simian heads executed in basalt, found on the northwest coast. Of these one belongs to Mr. Terry, one to Mr. T. Conden, and one to Prof. O. C. Marsh. The question is whether these sculptures of monkeys were executed by those who had migrated from the south, or were they specimens which have survived from the earlier time, representing animals which once existed in the Columbia Valley. Prof. O. C. Marsh says: "I have found evidence on the Columbia River of the former existence of inhabitants much superior to the Indians at present there, of which no tradition remains." The heads differ from any known anthropoid apes, but they differ from one another and represent three distinct animals. Mr. Conden suggests that

they were copied from the figure-head of some Malay proa. This seems to us probable. Other figures of apes have been found in the same region, but the carvings of the northwest coast so resemble those of the South Sea Islands as to suggest a connection at an early date between the two countries, either by visitors or by immigration. The ocean currents connect the northwest coast with the South Sea Islands. Possibly this will explain the monkey carvings.

COPPER BRACELETS*—In Montgomery County, Kentucky, there is a mound, 200 feet in circumference and 14 feet high, in which a skeleton was found with copper beads around each arm above the elbow, and shell beads on each leg above the knee. Hempen fibre was in the beads. The body was buried with two large rocks placed around it.

"FORT RINGS."—Two large circles were found near Comargo, Kentucky,—“fort rings”—140 feet in diameter. Also several other circles or “fort rings” in the same county. In Clark County, Kentucky, there is a circle or fort ring, 180 feet in diameter, and an oval mound near it. The mound is 65x55 feet and 8 feet high. A very fine view can be had from the summit of this mound. A truncated mound on Stoner Creek has a height of 20 feet. This is a very romantic spot. It is composed of three mounds; one has a depression in the center. The soil was taken from the surface.

COPPER BREAST-PLATE IN MARION COUNTY, KENTUCKY.—A mound in Marion County, Kentucky, between Rolling Fork and Salt Lick, made on the end of a plateau, presents a sublime view. In either direction the view extends over the valleys of the two streams, with large knobs and hills standing out in bold prominence. The selection of this spot shows that love of scenery was strong with the Mound-builders. The mound is about 40 feet in diameter and 10 feet high; excavation 12 feet. At the bottom were five piles of stones in the position of a circle with a center, four piles to the points of the compass. The stones were placed three in a pile, and the top showed traces of fire. Near the bottom was a layer of sand, then clay, then charcoal, 3 inches, then clay. In the charcoal was a pile of jasper-colored stones or pebbles. One and a half feet above the charcoal was a layer of ashes; on the ashes several pieces of galena. One piece weighed seven pounds. Here was also a breast-plate of copper, $5\frac{1}{2} \times 3\frac{1}{2}$ inches, solid copper; also eight copper spools, two inches wide at the ends. Around the spools thread or twine made of the fibre of bark was wound. There were also three or four copper disks, shaped like the ends of the spools, but larger, fully three inches in diameter. The spools were probably used for making matting cloth, for domestic purposes. The

*From the Geological Report of Kentucky.

larger, saucer-like specimens were very regular and exactly alike. The altars were probably places of sacrifice. The altar may have contained the remains of bodies which had been cremated, but the bodies had disappeared. Only the copper relics were left.

AN IMPORTANT DISCOVERY.—Rev. J. D. Chapin, of Oak Park, Ill., writes about a remarkable discovery of a large number of cemented coffins containing skeletons near Stanton, Mich. The particulars of this find will be given in our next number. According to present accounts, it is impossible to tell what the significance of the find is.

HUMAN FOOTPRINTS.—In the vicinity of Hickman, Kentucky, are several footprints, which, it has been suggested, were originally impressed into the soft sand, which afterward hardened into rock. No signs of any tool have been discovered, and the footprints are very like natural impressions. The sand belongs to the quaternary, and yet the footprints must be very old if they are natural.

ORIENTAL CONGRESS.—The Ninth International Congress of Orientalists is to be held in London in September, 1891. Mr G. W. Leitner, of Woking, the Secretary, says that he hopes the Congress will be honored with the attendance of a large number of American oriental scholars.

A DISCOVERY, in Egypt, resembling that of the mummies of Pharaoh, which was made about ten years ago, has been recently made at Deir, Elbahiri. It was near the plain of Thebes. A well-shaft led to a door-way, which opened into a gallery 225 feet long, and a stair-case descended $5\frac{1}{2}$ metres and led to a lower gallery 12 metres long. The total underground area was 153 metres and 65 feet below the surface. Sarcophagi piled up with boxes, baskets of flowers, statuettes, funereal offerings and boxes of papyri, some of which belonged to the twenty-first dynasty. The mummies are priests of Ammon, Anubis, etc., 163 in number. The contents of the papyri are unknown. It was a hasty burial, similar to that of the Pharaohs. Some of the mummy cases are richly decorated. Other mummies, without inscriptions, had been hastily seized and put into this secret tomb to keep them from the pillaging enemy, though the date is unknown.

THE OLDEST KNOWN Egyptian temple and the only pyramid temple ever found has been recently discovered in Egypt. It was buried under 40 feet of rubbish. According to Mariette and Brugsch, it was built about 4,000 B. C. It has the plain, undecorated style of the old empire. The name of Senefered, who was the king who connected the third and fourth dynasties, was painted in black paint in the Hieratic inscription. An opening to the three chambers, which had not been entered for three thousand years, was discovered.

BOOK REVIEWS.

The American Race: A Linguistic Classification and Ethnographic Description of the Native Tribes of North and South America. By Daniel G. Brinton, A. M., M. D. New York: N. D. C. Hodges. 1891.

This book meets a long felt want. It is a summary of the various tribes and races of both continents of America, reduced into a small compass and presented in a readable form. Dr. Brinton, the author, is somewhat of a linguist, but perhaps would be more properly called an ethnologist, as his writings are descriptions of the characteristics of the different races as well as of their languages. The work may be said to contain a catalogue of the different tribes of Indians, with a brief description of their location, and treating of their physical characteristics and peculiar customs. The position of the author is that all these tribes belong to one race, and that this race came to America some time in the distant past when the northern regions of this continent and the bottom of the Atlantic were elevated, and that on this bridge the first ancestors migrated. "We are obliged to look for the original home of the American glacial man elsewhere than in America," he says; "the extreme antiquity of man in America is placed beyond cavil, and yet he did not originate upon the continent." The point which we make in this connection is that the author should give us the evidence. We are not quite prepared to admit the various conjectures which he throws out in his interesting chapters about the descent of man, and the preglacial migration and the subsequent spread of the population over the two continents as a sufficient basis for the theory he advances. If the entire development of the so-called American races was separate from all others and if there was no connection with other continents, we are at a loss to explain the modern date of many of the migrations or to understand the character of many of the improvements and inventions which have appeared. Besides this we have noticed that many of the myths of the American aborigines have great resemblances to those of other continents, and the symbols and the art products give the idea that other myths were embodied in the relics of the earlier races.

Dr. Brinton may have evidence in the languages to prove that all were of one race, and yet he acknowledges that there are great differences in the complexion, in the color of the hair, the form and shape, the contour of the skull and other physical characteristics. These, to other ethnologists, would be sufficient to prove that there were several races instead of one. He takes it for granted that his knowledge of the American language is such as to make his assertion to be entirely authoritative. If the craniologists or the archeologists or the mythologists should happen to dispute this, so much the worse for them. Unfortunately too little information is furnished in reference to the language for us to rely so implicitly upon it. We are not quite sure but that he is using conjecture here as elsewhere to substantiate his opinions.

Dr. Brinton has a way of seizing upon a new position and making the most of it, taking it for granted that that position has been proven, and

going on to the very end. We can not help imagining that other linguists will arise who will take up the author on his own ground, and perhaps confirm the testimony of other archaeologists and ethnologists as to the diversity of the race, and therefore do not feel called upon to say that his decision is final. It is a very remarkable fact that the architecture and the art differ in the different parts of America as greatly as they do in the different parts of Europe or Asia. If the Egyptian, Etruscan, Assyrian and other styles are allowed to be the embodiment of different ethnic tastes and origins, we do not see why the Peruvian, Central American and Mexican, and other types of architecture, are not equally so.

Any one who has studied the works of the Mound-builders will understand that there are many evidences of a diversity of races among them, and not only this but a great difference of date of occupation, migration from some source being proven most conclusively, but under this theory the wonder is where all these people came from.

It is possible that the Aztecs were the same as the Nahuas, but to conclude that the Nahua and Maya languages were the same as the Iroquois, the Athabaskan, the Algonkin, the Cherokee and the Muskogee is at present gratuitous. This claim reminds us by contrast of the one, made a few years ago by Prof. John Campbell, that the American languages were the same as the Hittite, and that specimens of the Hittite tongue were even found among the Mound-builders. The truth is that there are too many facts in American ethnology and archaeology proving a diversity of race for us to accept this theory; and yet there is an advantage in theories, for one theory can be set off against another, and ultimately all conjectures will be laid aside and the truth will be brought out by the substantial evidence.

We notice that Dr. Brinton is ready to admit that there is occasionally a language whose "connection with other languages has not been traced." Where this is the case he finds it convenient to resort to archaeological evidence to bolster up his theory. To illustrate, he says of the Maya language: "So far no relationship with any northern stock has been detected, but the striking similarity of some art remains in the middle Mississippi district to those of Yucatan suggests that one should search in this vicinity for their home."

This is very convenient, and compares very well with the theory of evolution and the gradual spread from the time when the great glacial sea subsided, but somehow the myths of the Muskogees point to a migration in the other direction. If they are the survivors of the Mound-builders, they are just as likely to be descended from a people who went northward as the Mayas from those who went southward. The argument is that the Mayas and the Mound-builders went southward, but both were descended from the same stock and belonged to the same great preglacial race. Again, ethnologists have been anxious to find a connection between the Cliff-dwellers, of the great plateau and the pyramid-builders of Mexico, but have been backward about asserting it. If Dr. Brinton has given us a bridge of language by which we can span the distance, we should like to know it. He admits that the tribes of the western coast are not connected with any east of the mountains. There are many physical peculiarities which mark the Pacific Indians and contrast them with those east of the mountains. The Pacific tribes are more quiet, submissive and docile, and have less courage

and less of that independence which is so constant a feature of the Algonkin and the Iroquois. He admits also that some of the tribes migrated westward, the Dakotas being a remarkable illustration. Branches of this stock are found in Virginia and Louisiana, as well as in Dakota, Iowa and Missouri, their general course having been northward. On the contrary, the southern tribes migrated eastward, their traditions and all other evidence pointing to an original starting place far to the westward. They were devoted sun-worshippers, the Natchez, the Catawbas, the Muskogees and other tribes having preserved many of the rites of sun-worship among them. The author takes the ground that there was no civilized race in America, yet he dwells on the relics and works of art found among the Nahuas, the Mayas of Central America and the Chibchas of South America as most remarkable specimens. He thinks the Kechuas or Quichuas of the Andes moved southward, their first appearance being near Quito and their settlement being on Lake Titicaca. The craniology of the Peruvians offers peculiar difficulties. He says it is evident that along the coast there lived tribes of contracted skull forms, but says nothing about the opinion that the Inca dynasty had been intruded upon the native people, thus making two races. The official religion was a worship of the sun; but the architecture was peculiarly like the sun circles and the standing stones and the other features which spread from India to Great Britain.

These remarks on the theory of the author should not be taken as adverse criticisms, for they are only arguments which arise from the conservative stand point. We regard the book as a very valuable one. It is the only one of the kind ever written. The author has certainly brought out a valuable contribution to ethnology, and the fact that the book is small and well written will make it a popular one. It is one of the best books which the author has written, and we are very glad to commend it to our readers. If a professorship in a university brings to the world such books as this, it would be well that there were more such in America, and other universities ought to follow the example of Pennsylvania.

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DEFENSIVE WORKS OF THE MOUND-BUILDERS.

BY STEPHEN D. PEET.

One of the chief things impressed upon us by the study of the Mound-builders' works is the peculiar method of defense which prevailed among them. This method was, to be sure, one which they held in common with all other prehistoric races, but it was in strong contrast with all that have ever existed in historic times.

We may imagine that their fortifications are like those of modern times, but when we come to consider them more closely we find them entirely different. A few words in reference to these differences will be in place here.

1. The people to be defended.—The picture before us is not that of a nation occupying a continent, nor of a people filling a State, nor a community occupying a township, but it is of a tribe occupying a river valley, or of a clan occupying a limited district. The clan was the unit of society. Each clan had its own burial place, its own place of religious assembly, its own chief, and we may suppose also its own stronghold. The method of defense was for the clans to gather and make common cause, the tribe itself being only a combination of clans.

2. The class chosen to be defenders.—The Mound-builders never attained to the modern method of employing a distinct military class for defense. There were no different classes among them, and scarcely any division of labor. All followed the same general mode of life, were either fishermen, or hunters, or agriculturists, the means of subsistence being common to all, and the responsibility of defense being shared by all.

3. The extent of territory defended.—The Mound-builders occupied the Mississippi Valley, and their defenses are scattered over the whole region, every part of it giving evidence not only

of an extensive signal system, but of fortifications as well. Still, so far as can be ascertained, the system of defense which, while it embraced this entire valley, was one which was divided and adapted to limited districts. There are, to be sure, evidences that confederacies existed among the Mound-builders. Where these prevailed the system of defense extended over comparatively large districts, districts which, in some cases, cover the half of a modern State. As a general thing the territory was more limited than this. It was the tribal territory that was defended. The village was, to be sure, the clan abode, and this must be defended first, but the clans were organized into tribes, and so the system of defense embraced the habitat of the tribe.

4. The means of defense are in contrast. These differ even in historic times. In modern days the forts are the main source of protection. The entire people are defended by the forts. The mediæval method was to make the walled towns the chief source of protection, the castle being the dwelling place of the feudal despot. The ancient method was to surround the cities with walls and to make the citadels the chief source of protection. The prehistoric method was to make the village the permanent residence, depending on the clan organization as the main source of protection. The clan dwelt in the villages, and sometimes protected these with walls and sometimes left them without walls. Their chief defense seem to have been in the forts. Were they clan forts or tribal forts? The probability is that they were the latter. They were placed in the midst of the villages for the protection of the clan as well as the tribe.

5. The location is to be considered. We have divided the Mound-builders' territory into different districts. The method of defense varied according to the location. In the northern regions the wilder and more uncivilized races dwelt. These erected stockades resembling Cæsar's Forts, built in the forests of Gaul. In the central regions were the agriculturists. These lived in walled villages resembling those of mediæval times, their fortifications resembling castles. In the southern districts we find the system of pyramids, which resembled those of the ancient people of the East, especially the Assyrian and Chaldean. On these pyramids the chiefs had their residence, and found protection in their height. The Mound-builders' defenses embraced a great variety, if we take the different districts into account, and yet there was a resemblance between them.

6. The stage of progress prevalent among the Mound-builders is another element of difference. We may draw a parallel between the historic and prehistoric ages, locating the different grades in different belts of latitude, recognizing the stages of progress as we cross these belts. The defensive system is, however, very different. This system depended largely upon the condition of the people. There was never any such protection as that given

by the ancient cities. We must judge the two periods by different standards.

7. The religious system is perhaps the chief element of contrast. We shall find that religion was a prominent factor in the defenses of the Mound-builders, superstition being as powerful among them as among the modern savages. We can not omit the element of religion from prehistoric races.

With these few remarks we now proceed to the study of the different methods of defense among the Mound-builders.

I. The first method to which we shall call attention is that which appears in the extensive signal and observatory stations. We have already called attention to this system in the chapter on burial mounds. We will now consider it more especially in connection with village life. The fact is that a system of signals by which the villages could communicate with one another, and through which the people could be aroused to the sense of danger, everywhere existed. The extent of this signal system was, of course, dependent upon the extent of the tribe or confederacy. In some cases the system would be limited to the valley of a single river, or perhaps to a portion of the valley. In other cases it would extend across the country from one river to another. In a few cases the signal system extended even beyond these limits, and may be supposed to have reached out till it covered the whole country with a network of beacons and signals. The defense which this system gave to the Mound-builders can not be over estimated. The people may have dwelt in villages. Many of the villages were situated upon low ground, but the signal stations were so placed upon the high points surrounding them that there was a constant outlook, and the protection covered a large region of country.

1. We notice that this system was common among all the tribes of Indians. We have the testimony of explorers that it was very common in the far west. We present a few cuts which are taken from the reports of the Ethnological Bureau, and would refer to the remarks of Col. Garrett Mallery, Dr. W. J. Hoffman, W. H. Holmes and others. It appears that one method of signalling a village was to place a horseman on an eminence so that he could be seen in all directions. The horseman had a way of riding in a circle, and the sign was easily understood. The plate illustrates this, for here the horseman is on the hill and the village is in the valley, and the attacking party approaching from a distance. See Plate I. Another method is to build fires upon prominent points, so that the smoke could be seen by day or the flame by night, and the warning be given in this way. This is illustrated by Plate II. This particular cut shows the signal which was given to convey tidings of victory, but similar signals were given also as warnings. The natives have a method of signaling by fire, which is peculiar to themselves.

The Dakotas, for instance, mix their combustibles so as to cause different shades of smoke; using dried grass for the lightest, and pine leaves for the darkest, and a mixture for intermediate shades. These with their manner of covering a fire with their blankets, so as to cause puffs of smoke, or of leaving the smoke to rise in unbroken columns, gave to them a variety of signals. Sometimes a bunch of grass was tied to an arrow and lighted, and shot into the air. The tribes of the southwest signal by this means. The Aztecs signaled to each other by fire during the siege of the City of Mexico.



Fig. 1.—Hill Mound near Chillicothe.

There are many signals among the tribes which are used in case of victory, and others for hunting purposes, and still others for purposes of recognition, but those for defense are the most important. We give a cut illustrating the method by which the natives now make signs to one another for the purpose of recognition (see Plate III).* The same custom of stationing sentinels on prominent points as lookout stations, has been long prevalent. Circles of stones are often found upon elevated points of land, where a good view of the surrounding country can be obtained. These circles are common on the Upper Missouri, among the Dakotas in Arizona, among the Hualpai, among the Pah Utes of Nevada, in the Sho-Shonee country, in Wyoming, and in many other places of the far west. Frequently the ground

*These Plates will be found in Vol. V, No. 3.

around these watch stations is literally covered with flint chip-pings, as it was the custom of the sentinels to spend their time in making bows and arrows while watching.

This signal system still prevails. It is more prevalent in an open country like the plateau of the west, and yet it probably prevailed in ancient times, in the region east of the mountains. Traces of it are seen among the Mound-builders.



Fig. 2.—Map of Forts on the Miami.

2. The combination of signal mounds or observatories with beacons was a common method of defense. Some of these are accompanied with vast quantities of ashes, showing that beacon fires were long kept burning. In one case the ashes were thrown over a steep embankment, and yet were, when discovered, many feet in depth. Many of the burial mounds were used as watch stations or beacons, and it may be that a double protection was given by them. These observatories or beacon mounds are sometimes placed on very high points,† and thus they command the view of other points at a great distance. This idea is given by Dr. Lapham, in connection with Lapham's Peak, a high knoll

†See map of Scioto Valley, also of Miami Valley and of works at Marietta.

in Washington County, which commands a very extensive prospect for miles in every direction. Dr. J. W. Phene in his visit to this country recognized the same in connection with the great serpent mound in Adams County, Ohio. He states that this work is located on an eminence, from which a view can be had of Lookout mountain, in Highland County, twelve miles away. The same has been observed by the author in connection with the works at Circleville. The great mound at Circleville was sixty feet high, and commanded a view of Lookout mountain, twelve miles to the south of it. On this mountain an observatory was located which commanded a view of the works at Hopeton, situated just below, and the works at Chillicothe, several miles to the south of it. It is maintained by E. G. Squier, that such a series of lofty observatories extend across the whole States of Ohio, of Indiana and Illinois, the Grave Creek mound on the east, the great mound at Vincennes on the west, and the works in Ohio filling up the line. Other persons who have made a study of the works along the Ohio River maintain that there is a series of signal stations running up the branches of the rivers, such as the Scioto, the Great and Little Miami, the Wabash, and other rivers, and that all the prominent works through Ohio and Indiana are connected by a line of observatories. This net-work of signal stations is interesting if studied in connection with the village enclosures; as there are many scattered throughout this whole region.

Here we call attention to the explorations of the Rev. J. T. McLean, who has described the location of the large mounds on the Miami River. He has shown that they were connected with one another and with the forts and villages on that river. See Fig. 2. The author has followed up the subject and has found that a line of signal stations extends from Fort Ancient, on the Little Miami, to the great mound at Miamisburg, on the Big Miami. The latter mound was raised to the height of sixty-five feet, so as to give a chance to signal over a range of hills situated just west of it. The great mounds at Grave Creek, at Marietta, at Chillicothe and elsewhere were placed on prominent points that they might serve as signal stations.

Dr. J. C. Proudfit has traced the signal system along the Missouri River and has shown that it is very extensive. Hon. C. C. Jones has traced them through Georgia, in the Southern States. Gen. G. P. Thruston has traced them through Tennessee and the Cumberland Valley. Dr. J. H. Baxter has traced them on both sides of the Ohio River from Cincinnati to Louisville. We may suppose that the system extended over the entire Mound-builders' territory. It is probable that nearly all the large mounds were lookouts, and were essential factors in the military system of the Mound-builders. The distinguishing points of the system are as follows:

3. A signal station designed for defense is generally a mound located on a prominent point, in close proximity to some village, and is so connected with other observatories that signals can easily be exchanged. The signal stations on the hills commanded other stations at a great distance, so that no enemy could come within miles of the spot without being seen. Such a system of outlooks may be seen surrounding the ancient capital at Newark, which was singularly situated in the midst of a natural amphitheater, while the observatories were located on the hills surrounding. It has been stated also that observatory mounds are located on all the hills in this region, forming lines between this center and other prominent though distant points. A line has been partially traced from Mt. Vernon to Newark, the large mound in the cemetery at Mt. Vernon being one of the series.

On a hill opposite Chillicothe, nearly 600 feet in height, the loftiest in the entire region, one of these signal mounds is placed. A fire built upon this would be distinctly visible for fifteen or twenty miles up, and an equal distance down, the valley of the Scioto, including in its range the Circleville works, twenty miles distant, as also for a long way up the broad valleys of the two Paint Creeks, both of which abound in the remains of ancient villages. In the map of the Miami valley a similar position observed, and similar mounds occur along the Wabash, the Illinois, and the upper Mississippi, showing how extensive this signal system was, at the same time showing how intimately it was connected with the villages. The author has also, during the preparation of this paper, discovered sites of ancient villages near the lofty eminence called the Platte mounds, in Wisconsin, and the conviction has grown with the study of the works in all sections of the country that the signal system was closely connected with all the prominent points, and that villages were frequently located near these points for the very purpose of securing the defense offered by this system.

4. The large conical mounds were used as signal stations. It took a long time to finish one of these conical mounds. The beacons or funeral fires may have been kept burning, and so defense of the living as well as burial of the dead was accomplished by them. The fact that conical mounds were so often placed upon high points and commanded extensive views would indicate that the interchange of signals was very extensive. We have given elsewhere cuts of the large conical mounds at Grave Creek,* Marietta, Miamisburg and Vincennes. These were located near ancient villages and were connected with many other works. The mound at Vincennes is only one of a group which surrounds the city, and is said to mark the site of an ancient capital. These

*This point can be seen in the cuts illustrating the articles on "Sacred Enclosures" and "Migrations". These cuts show how the signal stations and the forts are connected with the villages.

are, however, only a few of the many localities. In fact there is scarcely a bluff along the whole course of the Mississippi River where some such beacon mound is not found. The same is true on the Missouri, the Ohio, the Cumberland, the Tennessee, and other tributaries. It is the commonest thing for explorers to find burial mounds which were used as lookout stations. It is always interesting to notice how skillfully these spots are chosen and how extensive the views are from them.

5. Beacon fires were frequently lighted on the walls of the defensive enclosures, and many elevated points within village enclosures were used for the purpose of signaling distant places, so that we cannot confine the signal system to mounds or isolated stations, though as a general rule the signal system was outside and supplementary to the village enclosure. For illustrations of this see Plate representing the hill fort.

We would refer here to the fact that in the ancient fortification at Bourneville, O., there was a rocky summit which overlooked a great valley below, on which traces of beacon fires have been discovered, and that upon the walls of the enclosure at Fort Ancient traces of fire have also been discovered.

On the other hand there are many villages where the location of some lofty point near by would give great opportunity for exchanging signals either by fire or smoke for great distances. Many such points are seen in different parts of the country.

Messrs. Squier and Davis mention the fact that between Chillicothe and Columbus, in Ohio, not far from twenty of these points can be selected, the stations so placed in reference to each other that it is believed that signals of fire might be transmitted in a few minutes.

II. We now turn to the second method of defense. This consisted in the erection of stockade forts. It may be said that this was the common method of the wilder tribes and was peculiar to the northern class of Mound-builders. There were three varieties of stockades:

1. Those located on high ground, and which were naturally defended and needed only a double wall across the tongue of land to protect this. This is the simplest kind of a fort. Many of them have been seen and fully described in the northern part of Ohio.* Col. C Whittelsey has described some of these. They are situated at Conneaut, at Ashtabula, at Painesville, at Cleveland, and various places on the Cuyahoga River, near Sandusky, on the Sandusky River, and at many points along the valleys of these different streams which run into Lake Erie. We call attention to these works, as they illustrate the number and

*See Tract No. 41, Western Reserve and Northern Ohio Historical Society, Ancient Earthworks. See also, Ancient Earth-Forts of the Cuyahoga valley, Ohio, Cleveland: 1871. See History of Ashland county by Dr. A. H. Hill. See work on Mound-builders by Rev. I. T. McLean, and Aboriginal Monuments of Western New York, by E. G. Squier.



PLATE I.—SIGNALLING AN ATTACK UPON A VILLAGE.



PLATE II.—SIGNALLING WITH SMOKE.

situation of the works of the late Indians, and also show the difference between their works and those of the Mound-builders. It would seem that a perfect network of these defenses was spread over the northern part of the State. We give a cut of the fort at Newburgh, Ohio. See Fig. 3. This illustrates the style of fort. There are many such forts in Northern Ohio.

It will be seen from these that the defense consisted mainly in the location. The walls were erected merely to supplement the natural defense which the rocky precipices and the isolated points of land would furnish. But with these inclosures there was also the combination of the outlook. Dr. Hill, of Ashland, O., has given this idea in his description of his works which are situated in Ashland county. He says, that here the forts are within sight of one another through the whole length of the river, those prominent parts, or tongues of land, which would give distant views having been chosen for the erection of forts. It should be said that this part of Ohio abounds with prominent bluffs, whose precipitous heights furnish excellent defense. The Huron Shale is here worn down by the action of



Fig. 3.—Stockade Fort in Northern Ohio.

water, leaving terraces projecting out in scalloped form and which make a series of level platforms, while the circuitous valleys below make an open territory between them, and thus fortifications could be easily erected, and a complete system of signal stations be established along the river.

2. Another type of stockade is common in the State of New York. It is also found in the northern part of Ohio, the fortification at Conneaut being a good specimen. Here there are remains of stockades, the stockades having been placed on the summits of the hills where an extensive outlook could be had. These stockades may have so been connected that a complete system of signals could be conducted across the country, and natives defend one another by the combination of the outlook with the enclosure. These ancient stockades have been described by E. G. Squier, but the connection between them has not been traced.

It is a fact, however, that this State was the seat of a great confederacy, that of the Iroquois, and this renders it probable that these prehistoric forts were connected by a signal system. It is known that the Iroquois had a complete military organiza-

tion; their central capital was at Onondaga, but there were trails running from this point throughout the whole State, and the villages were connected by the trails. It is known also that the Iroquois had stockades, and that they defended themselves against the whites by these fortifications. Some of the sites of the Iroquois forts have been identified. The boundaries of the different tribes are also known. Under such an organization the signal system would come into use, and we can imagine how completely the State was protected by the combined watchfulness of the people with the defenses offered by these stockade forts.

There are descriptions of the defenses of the Iroquois which enable us to understand the military architecture of the prehistoric races. We give a cut taken from the *Documentary History of New York*, which illustrates the subject. It is a picture of a village of the Onondagas, attacked by Champlain in 1615. See Plate IV. "The village was enclosed by strong quadruple palisades of large timber, thirty feet high, interlocked the one with the other, with an interval of not more than a half of a foot between them, with galleries in the form of parapets, defended with double pieces of timber, proof against our arquebuses, and on one side they had a pond with a never-failing supply of water from which proceeds a number of gutters, which they had laid along the intermediate space, throwing the water without and rendering it effectual inside for the purpose of extinguishing fire."

The picture illustrates several points. (1) The villages were frequently surrounded by stockades, the houses within the enclosure being arranged in blocks. (2) The location of the enclosure was convenient to water, and attended with natural defenses. There is no evidence of the signal system in this case, and the use of water in the manner described is uncommon among the northern races, though in the southern states there are many cases where the villages were surrounded by artificial ditches and ponds of water. (3) The manner of constructing the wall which surrounded the defensive village enclosures. We call special attention to the elevated platform or parapet, as it may possibly help us to understand the manner in which the villages of the Mound-builders were defended. If we substitute for this timber wall a solid earth work, making the top of the earth wall a platform or parapet, and place the barricade on the outside, we shall have a defense very similar to this of the Iroquois. The combination of stockade with an earth wall would thus make an admirable defense for a village, and with much less expense of labor and time than if it were wholly of timber.

In reference to this Rev. William Beauchamp advances the idea that the erection of earth-walls as parapets preceded this method of stockades with platforms, but that the latter was found to be the easier method, so the earlier mode was abandoned. A view of one of these stockade forts is given by Sir

William Dawson in his work "Fossil Men." He has given a quotation from Cartier's voyage, which describes this fort at Hochelaga, and has given a cut of the fort as it existed. According to the cut the walls of the fort were built of round trunks of trees, rather than of planks, but the town was a regular circle, with the houses arranged around a square. "The city of Hochelaga is round compassed about with timber, with three course of rampires, framed like a sharp spire or pyramid. It had but one gate or entry, which is shut with pikes, stakes and bars. Over it, and also in many places in the wall, there is a kind of gallery to run along and a ladder to get up with, and all filled with stones and pebbles for the defense of it. There are in the town about fifty houses, at the utmost fifty paces long and twelve or fifteen broad, built all of wood and covered with bark. They have in the middle of their towns a large square place, being from side to side a good stone's cast. They showed us the manner of their armor. They are made of cordes and wood finely wrought together." The diameter of this enclosure is given as about 120 yards, and each side of the square in the center about thirty yards. It was situated at the base of Mt. Royal, on a terrace between two small streams. The opinion is expressed that it was intended to accommodate the whole population in times of danger.

3. A third class of stockades is one which we are now to consider. It consisted in creating an enclosure capable of holding an extensive settlement, placing a heavy earth wall about the enclosure, and surmounting this by a palisade of timber. This was the common method among the Mound-builders of the ruder class. There are many such fortifications scattered over the Mississippi Valley. Some are situated in the prairie district, others in the forest region. Many such are found in New York, Michigan and Southern Ohio, but they should be distinguished from the regular Mound-builders' forts. The peculiarity of this class of stockades was that they were very large. The area within them frequently amounted to thirty or forty acres, though twelve to fifteen acres would perhaps be the average. We may take the fortified hill near Granville, Ohio, as a good specimen of this class. It encloses the summit of a high hill and embraces not far from eighteen acres. The embankment is carried around the hill and conforms generally to its shape. The ditch is on the outside of the wall, the earth having been thrown inward. There are no palisades on the summit, but the probabilities are that these surmounted the wall and have perished. Upon the highest part of the ground within the enclosure there is a small circle, two hundred feet in diameter, within which are two small mounds. Upon excavation, these mounds were found to contain altars.

A fortification similar to this is described by Squier and Davis,

as existing near the sacred enclosure on the Scioto River. This also had a mound in its center, and within the mound an altar. On this altar were discovered some remarkable relics. The area of this was twenty-five acres. It is surrounded by a ditch, and has six gateways. The character of the work resembles that of an ordinary stockade fort. The only thing which would identify it as the work of the Ohio Mound-builders is its proximity to the sacred enclosure called Mound City and the fact that it contained a mound with a paved fire-bed and the remains of a sacrifice. The Granville works contained a very large mound in the exact center, and yet had all the characteristics of the common stockade. The discovery of the paved altar in the fort near Chillicothe has been interpreted by some as proving the identity of the Mound-builders of Ohio with the stockade-builders of New York, but in the absence of other proof we must consider it a mere conjecture. Stockade forts like these were very common throughout the Mississippi Valley, but they are generally ascribed to the later rather than to the earlier Mound-builders. The prevalence of stockade forts in the midst of the Ohio Mound-builders' works only proves a succession of population.

Descriptions of the stockade forts have been given by Squier and Davis. We would refer the reader to the work by these authors for more definite information. Nearly all of these have high mounds in the interior of the enclosure or in the vicinity, which vary from twelve to fifteen feet in height, and were probably used as lookouts.

We give a copy of the plate (see Fig. 2) from the "Ancient Monuments," which exhibits a section of six miles of the Great Miami Valley. No less than seven enclosures are in this space, the most of them forts. It will be noticed that, besides the square enclosure (C), there are three classes of stockades. 1. Those which have remarkable gateways (A). 2. Those which have double walls, ditches and lookout mounds (B). 3. Those which have single walls across a promontory (G). The forts which interest us are those with the remarkable gateways. Some of them are on the terraces near the river, several are upon the summit of the bluff overlooking the terraces. In area they vary from eighteen to ninety-five acres. We shall describe at present only a few of these, the ones called stockades—these being the largest. The fort marked A will be described under the heading "Hill Forts". It will be noticed that there are lookout mounds on all of the high hills; that the hill fort is isolated and well protected by walls on all sides; that the stockade forts are on lower ground than the hill forts, being situated on the terrace near the river. We make a distinction between these forts, because they seem to belong to different periods and were probably built by different classes or races of Mound-builders. We take

the one called the Colerain, six miles south of Hamilton. It encloses ninety-five acres. Its walls have an average height of nine feet. It commands a large peninsula, two miles in circumference, formed by a singular bend in the river. It is upon the terrace, which is thirty-five feet above the river. Some distance from the fort, and still further to the south, is a hill three hundred feet high, upon the top of which are two mounds measuring five and ten feet in height; they are composed of earth and stones considerably burned. There is a ditch on the outside of the wall. See Fig. 4. At one extremity of the works, the wall is looped, forming a bastion of singular shape.

This fort is classed with the stockades. We elsewhere ascribe it to the serpent-worshippers, classing it with the old work at Fort Ancient and with the fort near Hamilton, and others. Our reasons for so classing it are as follows: 1. Its great size. Squier and Davis say that it is a work of the first magnitude and compare it to Clarke's Fort, on the north fork of Paint Creek. 2. The unusual height of the walls—nine feet—would indicate that it was no ordinary stockade. 3. The peculiar shape of the gateway. 4. The location of the fort. It is on the terrace overlooking the flood plain. It is not a hill fort, and hardly answers to the stockade fort. It seems to have been a village—perhaps a village of the serpent-worshipping Mound-builders.

Two other forts, which we class among stockades, may be seen on this map. One is situated on the terrace near the river. It covers eighteen acres, and is surrounded by a double wall, with the ditch on the inside. The peculiarity of this fort is that the inner wall and ditch pass over a large mound, which is denominated a lookout mound.

The next fort in the series is situated on the Big Miami River, six miles south of Hamilton. It consists of a simple embankment of earth carried around the brow of a high, detached hill, overlooking a wide and beautiful section of the Miami Valley. The side of the hill on the north, towards the river, is very abrupt and rises to the height of one hundred and twenty feet above the valley, from which an extended view may be obtained. There are two mounds of earth placed near together, on the highest point within the enclosure, measuring ten feet in height. The area of this enclosure is twenty-seven acres.

Two other enclosures containing single walls and single gateways are mentioned. One on Four-mile Creek contains twenty-five acres, and is situated on a promontory formed by a bend of the creek. The other is on Nine-mile Creek. Both of these have high mounds in the interior of the enclosure, varying from twelve to fifteen feet in height, which were probably used as sacrificial or lookout mounds.

Two other fortifications are mentioned by Squier and Davis,

situated on the Miami River, one of them two and a half miles above the town of Piqua. It occupies a third terrace, which here forms a promontory. It contains about eighteen acres, and is surrounded by a wall composed mainly of stone. The other is on the bank of the Great Miami, three miles below Dayton. It resembles the one southwest of Hamilton. The side of the hill towards the river is very steep, rising to the height of one hundred and sixty feet. At this point there is a mound, which commands a full view of the surrounding country for a long distance up and down the river. A terrace, apparently artificial, skirts the hill thirty feet below the embankment. The terrace may be natural, but it has all the regularity of a work, and may be compared to the work at Fort Ancient.

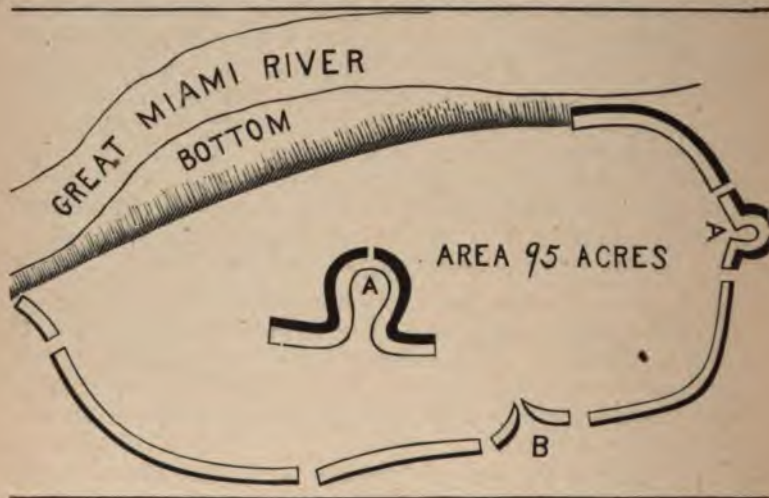


Fig. 4.—The Works at Colerain.

The next fort which we shall mention is also situated on the Miami. Fig. 5. It corresponds in all essential particulars with those already described, with the exception of the gateway. It occupies the summit of a promontory bordering the river, which upon three sides presents high and steep natural banks, rendered more secure for purpose of defense by artificial embankments. The remaining side is defended by a wall and ditch, and it is from this side only that the work is easy of approach. The most interesting feature in connection with this work is the entrance on the south. The ends of the wall curve inwardly as they approach each other, upon a radius of seventy-five feet, forming a true circle, interrupted only by the gateway. Within the space thus formed is a small circle, one hundred feet in diameter; outside of which, and covering the gateway, is a mound

(e), forty feet in diameter and five feet high. The passage between the mound and the embankment, and between the walls of the circles, is now about six feet wide. The gateway or opening (d) is twenty feet wide. This singular entrance, it will be remarked, strongly resembles the gateways belonging to a work to be described under the head of stone forts, although much more regular in its construction. The ditches (ff) which accompany the walls on the south subside into the ravines upon either side. These ravines are not far from sixty feet deep and

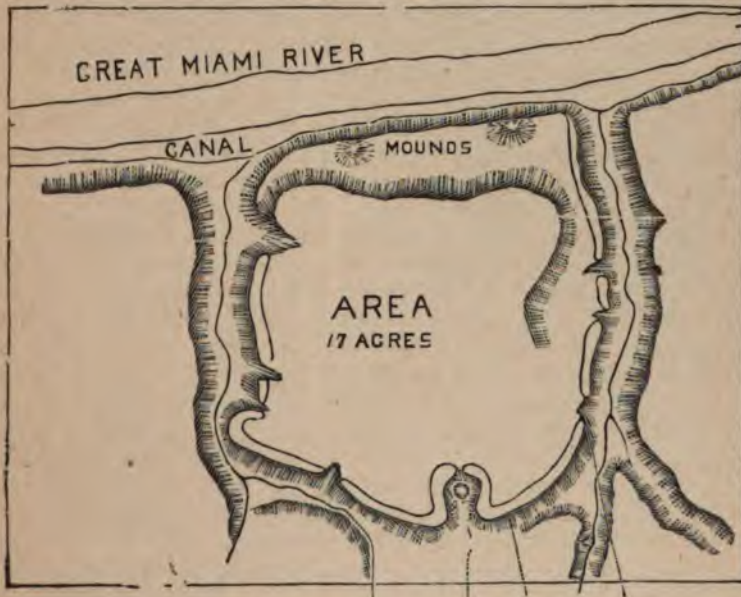


Fig. 5.—Works near Hamilton, Ohio.

have precipitous sides. The area of the work is seventeen acres. The valley beyond the river is broad, and in it are many traces of remote population, of which this work was probably the fortress or place of last resort during turbulent periods. The gateway of this enclosure resembles serpents' heads, and reminds one of the entrance to the lower enclosure of Fort Ancient.

III. We now turn to the third method of defense. This consists in the selection of some "stronghold" of nature and there placing a fortification, walls of earth being placed on the summit of the precipice as a supplement to the natural defense, the whole designed to be a place of retreat in time of danger. To understand clearly the nature of the works, it should be remembered that the banks of the rivers are always steep, and where these are located they are invariably high. The edges of the

table lands bordering on the valleys are cut by a thousand ravines, presenting bluffs, high hills, steep and detached and isolated heights with steep sides, and cliffs which are precipitous and often absolutely inaccessible. The natural strength of such positions certainly suggest them as the citadels of the people having hostile neighbors or pressed by invaders. Accordingly we are not surprised to find these heights occupied by strong and complicated works, the design of which is no less indicated by their position than by their construction.

Here let us say that these fortifications are to be distinguished from the walled towns or villages so common in certain parts of the country, especially in Southern Ohio. In reference to this we are to notice (1) that the fortifications are always placed on high and steep hills. Their walls always take the form of the outline of the hill, and hence are more or less irregular in shape, as they enclose the whole top of a hill and conform to the shape of the hill in contour. The walled villages are more regular. They are usually found on a level plain, one of the river benches or terraces, and have no natural barriers to prevent the regularity of their shape. The square and circle predominate, and are often found united in a seemingly arbitrary manner. (2.) In point of size, the fortifications vary greatly. Some of them contain only a few acres; others contain from one hundred to four hundred acres. The fortified villages are, however, quite uniform; the area varying from eighteen to fifty acres, but the majority containing about twenty-seven acres. (3.) The position of the ditch, whether inside or outside of the vallum or wall, is to be noticed. At one time it was thought that all works which had the ditch on the inside were sacred enclosures, while those which had the ditch outside were fortifications belonging to the Indians. There is, however, no uniformity. The material taken from the ditch was placed in the embankments, and in cases of fortifications on the hilltops it would be a matter of necessity that the ditch should be on the inside, the excavations or pits from which the dirt was scraped being in the immediate vicinity of the wall. The forts are found on the tops of the highest hills. They were sometimes surrounded by stone walls and sometimes by earth embankments, according to the convenience or abundance of the material furnished by the locality. (4.) Mound-builders' forts in Ohio were characterized by much engineering skill, and are distinguished from later Indian forts by this circumstance. Some of the Mound-builders built their forts very large and placed elaborate and complicated walls at their gateways, exercising much military skill in erecting the walls and planning outworks which would furnish the best protection. Others erected only rude earth walls, took no pains with their gateways and exercised little skill in their construction. There are many such fortifications.

This class of defenses we have called "hill forts." This term we



PLATE V.—FORT HILL, IN HIGHLAND COUNTY, OHIO.

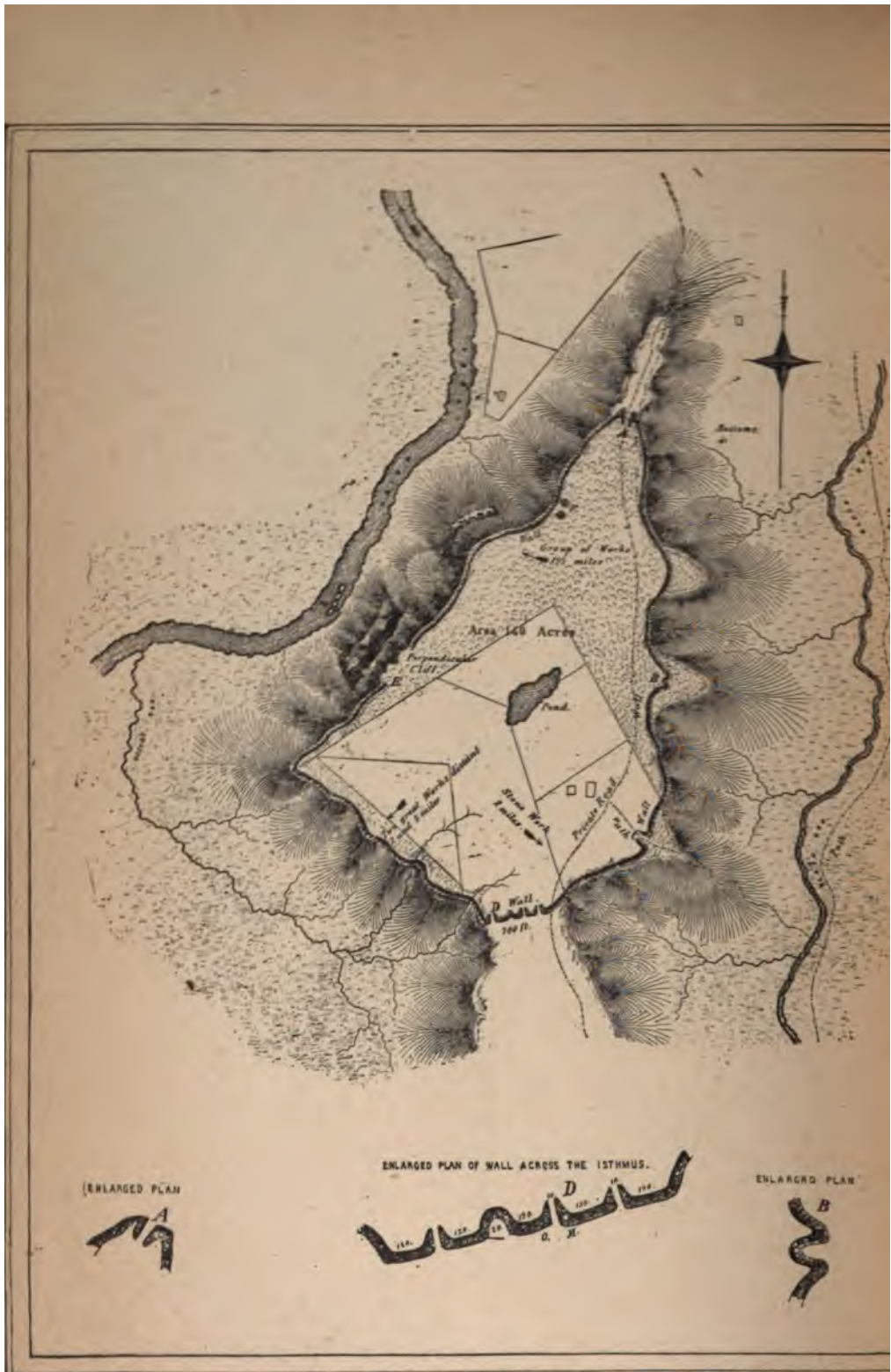


PLATE VI.—THE WORKS AT BOURNEVILLE, OHIO.

use for the sake of convenience, rather than for its accuracy. Nearly all the forts are situated upon hills, but the "hill forts" technically so called, are different from the ordinary class. Their strength consists in the fact that the hill upon which they are placed is itself a stronghold. The artificial wall placed upon the hilltop is only supplementary to the defenses of nature. The "hill forts" so called are very common in Southern Ohio. They are found at the mouth of the Little Miami River, on Brush Creek, on Paint Creek and in many other localities. Some of the largest forts in the Mississippi Valley are included in this class. Descriptions of "hill forts" have been given by Squier and Davis; we shall draw from them our information.

1. The first fort which we shall describe is called Fort Hill. "It is situated in the southern part of Highland County, thirty miles from Chillicothe. The defensive works occupy the summit of a hill five hundred feet above the bed of Brush Creek and eight hundred feet above the Ohio River. The hill stands isolated, and is a conspicuous object from every approach. Its sides are precipitous. The fort has an area of forty-eight acres. Running along the edge of the hill is an embankment of mingled earth and stone, interrupted at intervals by gateways. The length of the wall is 8,224 feet—something over a mile and a half. The ditch on the inside has an average width of fifty feet. The height of the wall, measuring from the bottom of the ditch, varies from six to ten feet, but rises in places to fifteen feet. There are thirty-three gateways, most of them not exceeding twenty feet in width. Considered in a military point of view the spot is well chosen and well guarded, and may be regarded as nearly impregnable and as a natural stronghold. It has few equals. The degree of skill displayed and the amount of labor expended in constructing its artificial defenses challenge our admiration and excite our surprise. The evidence of antiquity is worthy of more than a passing notice. The crumbling trunks of trees and the size of the trees which are still living would lead irresistibly to the conclusion that it has an antiquity of at least one thousand years." Plate V.

2. We turn to the works at Fort Ancient. This is a remarkable specimen of a "hill fort."* Here is an enclosure capable of holding an extensive settlement, the walls being nearly three miles and a half in extent, and the area of the enclosure being about one hundred acres. We see also an outwork, consisting of a covered way, which runs from the enclosure toward the east. This outwork is distinguished by one feature: At the end of the covered way is an observatory mound. The supposition is that this observatory was the place where a watchman was stationed, but that the distance was so great that the com-

*The book on Fort Ancient by W. K. Moorehead is the best authority.

munication might be cut off, and that the parallel walls were constructed so as to give protection to the sentinel and to keep up a communication. The country about the enclosure, especially that to the east, is open prairie and has no natural defense. This wall is 2,760 feet in length. The original height of this wall is not known, as cultivation of the soil has nearly obliterated it. Two high mounds are found between the enclosure and the covered way, making a double opening to the enclosure, and, at the same time, giving an outlook from this point. The enclosure itself is remarkably well adapted to the purpose of defense. See Fig. 6.

(1) Its situation is to be first observed. It is on top of a promontory defended by two ravines, which sweep around it to either side, forming precipitous banks, in places 200 feet high. The ravines are occupied by small streams, with the Miami River close by, and below the works, on the west side. The hill upon which it is located is divided into two parts by a peninsular, its summit being two hundred and thirty feet above the level of the Little Miami. On the verge of the ravine the embankment is raised, and winds around the spurs and re-enters to pass the heads of gullies, and in several places it is carried down into ravines from fifty to one hundred feet deep.

(2) The Walls.—The fortification is a strong one. Where the work is most exposed to an enemy it is of the greatest solidity and strength. At the isthmus the walls are twenty feet high. Where the Chillicothe road enters from the west the walls are fourteen feet high and sixty feet base. There are over seventy gateways. These openings appear to have been originally ten to fifteen feet in width. It has been suggested that some of these gateways were once occupied by block houses or bastions. Although the wall is chiefly built of earth gathered from the adjacent surface and from the interior ditch, it is partially underlined with stone. One of the most interesting facts is the different methods adopted for defending the more easy approaches. Here the wall is of ordinary height, but the ridge immediately outside is cut down several feet, so as to present a steep slope. This gives the appearance of a terrace a few feet below the wall. In reference to the terrace, there are important features. The isthmus just north of the so-called large mounds is undefended. This fact, as well as the difference in the construction of the walls of the different parts, has led certain persons to the conclusion that there were two forts, one called the "old" fort and the other the "new".

(3) The Terraces.—One terrace is located in the wildest region. It is situated in the southeast portion of the old fort. The terrace is covered with stone graves, the contents and construction of which have been described by Mr. Warren K. Moorehead. At the southwest there are two large terraces, between

the top and bottom of the hill. These terraces are supposed by many to have been merely natural, but by Squier and Davis, Moorehead and others they are thought to be artificial. It has

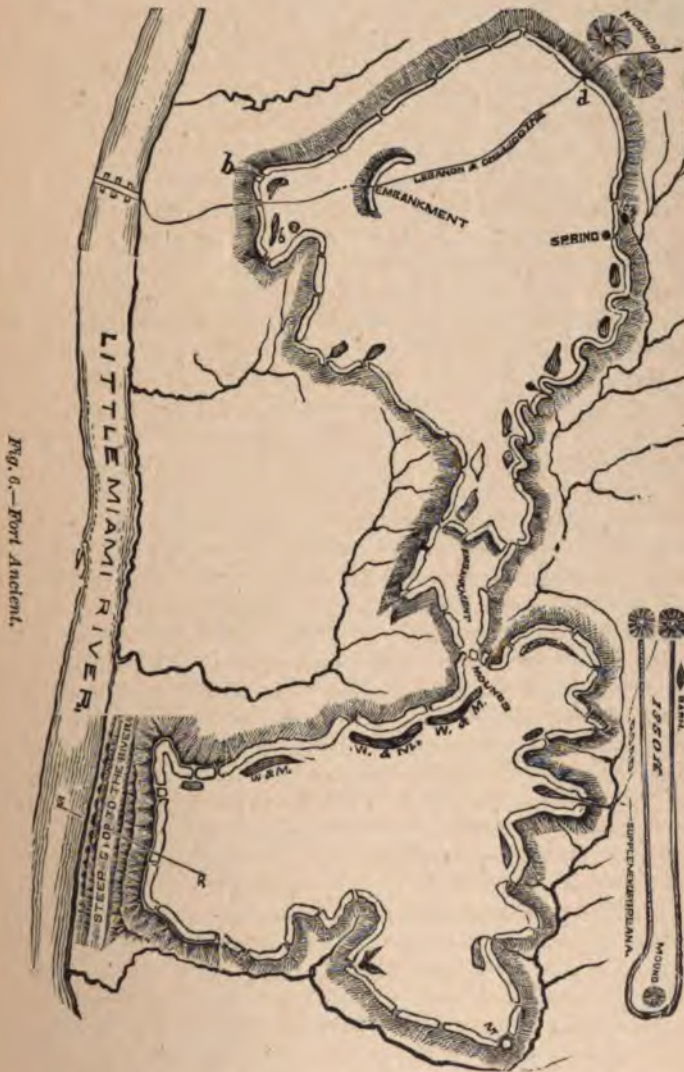


Fig. 6.—Port Ancient.

been suggested that they were designed as stations from which to annoy an enemy. Mr. Moorehead dwells upon the terraces of the region, maintaining that they are all artificial. He gives the entire length of these terraces as amounting to ten miles. They are from twenty to twenty-five feet wide, and run along the

hillsides with surprising regularity of height, and have the appearance of structures designed for a purpose.

(4.) The gateways of Fort Ancient are among its most important features. There are seventy-four of these, and they differ greatly in their dimensions. Some of them are thirty feet wide at the top and ten feet at the base; others are twenty feet at the top and five feet at the base. The wall of either side is always sloping. In many places there are large quantities of stone at the ends of the walls. These stones lie in a confused mass, but it is supposed that they were used as a wall to hold and strengthen the embankment. The position of the gateways is also to be noticed. It appears that some of them open out upon the terraces; others open to the road leading down the hill, which is now occupied by the pike. One to the east opens out to the prairie region, but it is guarded by two conical mounds, and instead of furnishing a passage-way to the open country, only leads to the long, narrow covered way which extends from this point to the east.

The Great Gateway.—The gateway is situated between the two forts. Here two mounds about twenty feet high and ten feet apart leave just space enough for a wagon to pass between them. At their base is a raised platform four feet in height. When examined it was found to contain many human bones. Outside of the gateway, in the space between the two forts, for a considerable distance, there is no embankment, the ravines here having a steep angle and coming very near together, so as to make a narrow passage way. All about this gateway are masses of stone. These must have been piled up in the form of a rude wall to strengthen the base of the embankment. Here the embankment is the steepest of the entire earth-work. The stones are on the outside of the wall. "From the great gateway the two walls which constitute the old fort greatly diverge. The wall running east swings around to the south; the other wall runs in a very irregular manner and is more tortuous than any other portion of the entire structure." This is the place where we recognize the snake effigy.

Other gateways are found at intervals on the different sides of the fort. The supposition of Squier and Davis is that some of these were formerly occupied by bastions and block houses. The so-called east gateway is the one which forms the direct entrance. It is a remarkable feature of the fort. It consists of two large conical mounds, which seem to have been placed at the openings both as guards and as lookouts. The dimensions of these mounds is given as twelve feet in height and eighty feet in diameter. Between these two mounds is a pavement laid with limestone. The use of the pavement is conjectural. Some of the stones give evidence of having been subjected to the action of fire. The area of the pavement is said to be 130x500 feet.

(5.) The Covered Ways.—Running due northeast from these two mounds are two parallel walls or embankments, about a foot in height and twelve feet wide. They run for a distance of 2760 feet and terminate by enclosing a small mound, about three feet high. They are 130 feet apart. A suggestion has been made in reference to these, that they were used as a race-ground, and that the wall at the end was the goal or turning point. Our conjecture is that the mound was a lookout station, and that the walls were designed to protect the sentinels and to keep open communication between the fort and signal station.

(6.) The Isthmus.—The division of the fort into two enclosures has been noticed. A peninsula joins the two forts. This has been called the "isthmus." The isthmus, however, seems to be a sort of middle fort. Here we find crescent-shaped embankments on one side and a great gateway on the other. "The space is well enclosed, and is one of the strongest positions of the entire fortification." The crescent gateway, on account of its beauty and the curve of its walls, may be regarded as belonging to the new fort. The other so-called gateway may be regarded as belonging to the old fort. Here the question of symbolism comes in. We have said that the walls of the old fort resemble two massive serpents, and that the mounds at the end, which constitute the sides of the gateway, represented the heads of the serpents. We now maintain that the crescents forming the gateway to the middle fort were also symbolic, and at the isthmus we find the clue to the character of the builders of the two forts. There is a crescent-shaped embankment near the western opening to the new fort. This we also regard as symbolic. We conjecture that the new fort was erected by the sun-worshippers and the old fort by the serpent-worshippers.*

(7.) In reference to the old enclosure, it appears almost certain that a large village once flourished within this fort. The wall is much more irregular than in the new fort. The terrace on the east side of the gateway has many stone graves. The stone graves are generally outside of the walls. "The terraces on the west side have scattered graves on them." Large quantities of stone were placed over the graves, one hundred wagon-loads in one place and forty in another. In the river valley below Fort Ancient was a village site. Ash-heaps were discovered here, and also many relics of a rude population. Five feet of earth were above the lowest site of the village. Well preserved skeletons have been found. "Three village periods have been recognized, and the mingling of two races seems to be indicated by the relics." The new fort was evidently built by a people more advanced than those of the old fort. The walls are much more skillfully constructed, have more perpendicular sides, sharper angles, wider gateways, and give more evidence of workmanship.

*Illustrations of the different parts of this fort are given by Mr. W. K. Moorehead

3. The fortified hill in Butler County is another specimen of a "Hill Fort". This is situated on the west side of the Great Miami River, three miles below the Hamilton. The hill is not far from two hundred feet high, surrounded on all points by deep ravines, presenting steep and almost inaccessible declivities, skirting the brow of the hill and conforming to its outline. Its wall is of mingled earth and stone, having an average height of five feet, by thirty-five feet base. The wall is interrupted by four gateways or passages, each twenty feet wide. They are protected by inner lines of embankments of a most singular and intricate description.

The gateways in this fort are its distinguishing peculiarity. It will be noticed from the plate that they occur where the spurs of the hill are cut off by the wall or parapet and where the declivity is the least abrupt. Two of them have the inner walls arranged after the same manner, with re-entering angles, curved walls, narrow passage-ways, excavations in the passage-ways. It will be noticed also that there are stone mounds on the summit of the hill near the gateways.

This style of gateway has been called the Tlascalan, as it is common among the Tlascalans and the Aztecs. The ends of the wall overlap each other, in the form of semi-circles having a common center. The northern gateway is especially worthy of notice. The principal approach is guarded by a mound, which was used perhaps as an alarm post. A crescent wall or embankment crosses the isthmus, leaving narrow passages between its ends and the declivity. Next comes the principal wall of the enclosure. Within this are two crescent-shaped embankments, placed between two prolongations of the walls, making a series of defenses so complicated as to distract and bewilder the assailants.

The stone mounds or beacons are to be noticed in this connection. These mounds are placed on the summit of the hill at the very entrance of the gateways. Similar stone mounds are found elsewhere, and they form a striking feature of the "Hill Forts". It is probable that they were used as beacons and that fires were lighted upon them.

The height of the ground is also to be noticed. It gradually rises from the interior to the height of twenty-six feet above the base of the wall, and overlooks the entire adjacent country. In the vicinity of this work are a number of others occupying the valley. The location of this fort will be seen by a study of the map of the works on the Great Miami.

4. Another "Hill Fort" that may be mentioned is represented on the same map. It is situated at the mouth of the Miami, six miles from Hamilton. It occupies the summit of a steep, isolated hill, and consists of a wall composed of earth thrown from the interior. The three sides are as nearly perpendicular as they could be. The wall corresponds to the outline of the hill,

but it cuts off a spur, leaving a promontory outside the walls. On this promontory is a mound, corresponding in its purpose with that which guards the principal avenue in the fortified hill just described. This fort was visited by Gen. Harrison and was regarded by him as admirably designed for defense, exhibiting extraordinary military skill and as a citadel to be compared to the Acropolis at Athens.

5. Two "Hill Forts" remain to be described. One of these is situated on the Big Twin, near Farmersville. It has been described by Mr. S. H. Brinkley. Its form is an irregular triangle,

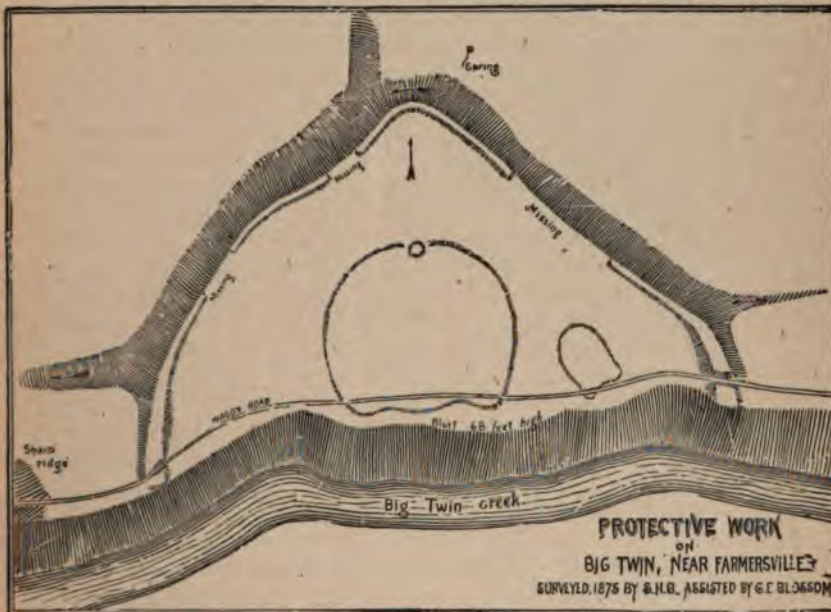


Fig. 7.—Farmersville Fort.

two sides resting upon the margins of wide ravines, the third on the Big Twin. The wall extends along the edge of the ravine; it is five feet high and forty feet wide; is flanked by a ditch on the inside. The entire length is two hundred and sixty-seven feet. There are three enclosures within this fort; two in the shape of horse-shoes; the third is a small circle. One of the horse-shoe enclosures has a diameter of three hundred and eighty feet north and south, four hundred feet east and west. The diameter of the other is one hundred and eighty-five feet and one hundred in width. The circle is but twenty-five feet in diameter. It is placed at the entrance of the larger enclosure, which is here forty feet wide. See Fig. 7.

These remarkable enclosures have been excavated and found to contain fire-beds or hearths filled with charcoal and ashes.

The supposition is that these hearths marked the sites of lodges. The shape of the enclosure is remarkable. It reminds us of the horse-shoes at Portsmouth, Ohio. What is strange is that a stone object wrought out of dark shale, with an exact representation of a horse-shoe upon it, was found in an adjacent field.

The gateway to the horse-shoe enclosure is noticeable. It is an exact circle twenty-five feet in diameter. This circle was placed at the entrance of the enclosure, partially filling the space, the entire opening being forty feet; but the circle took a little more than twenty-five feet, leaving a space or passage way on either side of it. Mr. Brinkley's idea is that the circle was the council house and that the horse-shoe enclosure was the place of residence. This is plausible, and yet it is the only enclosure of the kind which has been discovered. The other fort which Mr. Brinkley has described is also situated on the Big Twin, a tributary of the Great Miami. Its location is on a hill or bluff near Carlisle, so it has been called Carlisle Fort. See Fig. 8. The work comprises two distinct enclosures. The eastern division contains about nine acres, the western about six acres; the eastern division is protected by the precipitous bluffs which border upon the Big Twin, or rather which overlook the bottom lands or terrace of the Big Twin. On the north and south there are deep ravines, which protect it on those sides. The space between the two enclosures is made secure by a remarkable combination of walls in the form of a symmetrical crescent, three successive lines stretching, in graceful bends, from one ravine to the other, leaving a space between of forty feet and sixty-five feet, measured at the middle point. The inner wall is continued along the crest of the ravine, and forms a circumvallation for the fort. The length of the crescent-shaped wall is about four hundred and fifty feet; the height was originally about five feet. The western enclosure is protected by a ravine which passes around three sides of it. On the summit, overlooking this, there is a circumvallation, which is about three hundred and fifty yards in length and encloses about six acres. At a point between the two forts there is a ravine which partially separates them, but from which a spring flows into the bottom land. Above this ravine is a wall, which protects the western fort, and near the wall two circular enclosures, which seem to have formed guards to the gateway or entrance to the fort, though they may have had connection with the spring below. In the eastern division there was a stone enclosure, seventy-eight feet in length and forty-five feet in breadth, in the shape of a horse shoe, with a return at each corner, leaving an open space one-third of the width, fronting the east. The object of this horse-shoe enclosure is unknown. Mr. Brinkley thinks it was the foundation of a building, but of this there are no proofs. We would here call attention to the resemblance of Carlisle Fort to that at Fort Ancient. It is a double fort, the

two enclosures being separated by an isthmus, guarded by triple crescent-shaped walls. The entrance to this fort is by a path consisting of a most delightful promenade, which leads by an easy grade from the fort to the terrace. "The promenade is located on a ridge, but improved by the plastic hand of man." This promenade is on the side which leads to the Big Twin. One remarkable feature of this gateway is that near it there was a signal station or lookout mound and not far from the mound a pavement or fire-bed, beneath which were traces of fire.

This hearth or fire-bed is worthy of notice. The evidence is that here, as at the Farmersville Fort, there were fire signals. The walls near the gateway show this as well as the pavement. Near the Big Twin works there was a truncated mound thirteen feet high and a pavement ninety feet square. Near this pavement were ash-piles, which had been poured over the sides of the cliff, until they had attained a depth of ten feet. The symbolism connected with these forts is somewhat remarkable. Here we have the fire at one end of the fort and the water supply at the other; the hearths or pavements connected with one and circles connected with the other. The horse-shoe symbol is contained in the shape of the bluff itself and in the stone enclosure on the summit of the bluff.

IV. We now come to another class of strongholds, namely the "Stone Forts." These forts resemble the "Hill Forts" and may, by some, be regarded as identical. We classify the stone forts separately. Our reasons for so doing are as follows: (1) They seem to be more advanced in their style and

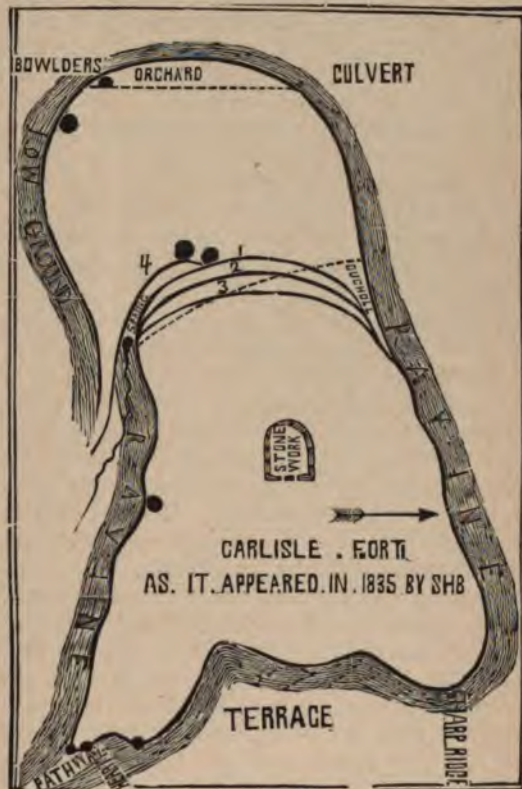


Fig. 8.—Carlisle Fort.

mode of construction. Wherever they are located they are always characterized by the same feature. They are generally situated on eminences, where there are rocky precipices. (2.) In several cases the precipices are veneered with artificial walls which make a barrier against the wash of streams and furnish a foundation to the walls above. (2.) The gateways of the stone forts are frequently quite elaborate. The wall is generally four or five feet high and varies from twenty to thirty feet wide at the base. It is sometimes laid up in regular order, making a smooth even front with sharp angles, but generally is merely in the form of an irregular pile of stone, and resembles an earth wall, except that the material is different. The question has arisen whether the wall was surmounted by a stockade; on this point there is uncertainty. The stone walls generally conform to the nature of the ground. Stones were employed because they could be readily procured, although the hammer had nothing to do with the preparation of the materials, yet there is evidence of great labor and the place of location is selected with a military eye.*

The stone forts may properly be considered as belonging to the village Mound-builders, and perhaps were designed as especial retreats for the villagers. It will be noticed, at least, that in Ohio this kind of fort is frequently situated in the midst of square enclosures, so giving evidence that they were built by the same people.† In the Miami Valley there is a square enclosure on the terrace, and the fort is on the hill near by. So with the fort at Bourneville. This is situated in the midst of the valley of Paint Creek, and was surrounded by enclosures, which we have imagined to be villages of the sun-worshippers. The same is true of the fort on Massie's Creek, near the Big Miami River. The stone fort near Manchester, Tennessee, and that of Duck Creek, of the same state, may be regarded as specimens; yet these were located near the walled villages of the Stone-grave people and may have been built by that people. The same may be said of the stone fort of Southern Indiana. This last fort was located on the Ohio, somewhat remote from the region of the "sacred enclosure," so called, but there are on the White River many earth-works which resemble those on the Scioto, and so we place this stone fort among the works of the sun-worshippers.

The subject of symbolism comes in here. It is to be noticed that two of the forts—Bourneville and Massie's Creek, in Southern Ohio—have walls in the shape of crescents, with mounds between the walls. Our conjecture is that these were designed as symbols. This last fort is beautifully situated on a hill-top, but is attended with a large square enclosure situated in the valley. The fort has a series of gateways guarded by conical mounds,

*Haywood's Tennessee.

†See map of Miami Valley; also of Paint Creek and the Scioto.

and an outer wall, divided into four sections, in the shape of crescents. See Fig. 9. The enclosure is nearly square, and is attended with several earth embankments, which are also in the shape of crescents. The impression gained is that here was a settlement of sun-worshippers.

The difference in the symbolism of the forts is to be noticed in this connection. The Hill Forts, if they contain any symbolism, contain that of serpent-worship; but the Stone Forts illustrate the symbolism of the sun-worshippers. The Hill Forts were generally located in a wild or rough hill country—a country which was probably occupied by hunters. The Stone Forts



No. 9—Stone Fort on Massie's Creek.

were generally located in regions favorable for agriculture and are surrounded by evidences of a numerous population; a population which was given to agriculture. With these conjectures we proceed to a description of the specific forts.

I. One of the best specimens of the stone forts is at Bourneville. See Plate VI. The description of this is given by Squier and Davis. It occupies the summit of a lofty, detached hill twelve miles west of Chillicothe. The hill is not far from forty feet in height. It is remarkable for the abruptness of its sides. It projects midway into the broad valley of Paint Creek, and is a conspicuous object from every point of view. The defenses consist of a wall of stone, which is carried around the hill a

little below the brow, cutting off the spurs, but extending across the neck that connects the hill with the range beyond. The wall is a rude one, giving little evidence that the stones were placed upon one another so as to present vertical faces, though at a few points the arrangement lends to the belief that the wall may have been regularly faced on the exterior. Upon the western side, or steepest face of the hill, the stones are placed so as to resemble a protection wall. They were probably so placed to prevent the creek from washing away the hill and undermining the fort. Upon the eastern face, where the declivity is least abrupt, the wall is heavy and resembles a stone heap of fifteen or twenty feet base and four feet high. Where it crosses the isthmus it is heaviest. The isthmus is seven hundred feet wide. Here the wall has three gateways.

The gateways are formed by curving inward the ends of the wall for forty or fifty feet, leaving narrow passages not exceeding eight feet in width. At other points where there are jutting ridges are similar gateways, though at one point a gateway seems to have been for some reason closed up. At the gateways the amount of stone is more than quadruple the quantity at other points, constituting broad, mound-shaped heaps.

These stone mounds exhibit the marks of intense heat, which has vitrified the surfaces of the stones and fused them together. Strong traces of fire are visible at other places on the wall, particularly at F, the point commanding the broadest extent of country. Here are two or three small stone mounds that seem burned throughout. Nothing is more certain than that powerful fires have been maintained for considerable periods at numerous points on the hill. There are several depressions or reservoirs, one of which covers about two acres and furnishes a supply of water estimated as adequate to the wants of a thousand head of cattle. The area enclosed within this fort is something over one hundred and forty acres, and the line of wall measures upwards of two and a quarter miles. Most of the wall and a large portion of the area was covered with a heavy primitive forest. Trees of the largest size grew on the line, twisting the roots among the stones. The stones were of all sizes, and were abundant enough to have formed walls eight feet thick. In the magnitude of the area enclosed, this work exceeds any hill-work now known in the country, although less in length than that of Fort Ancient. It evinces great labor and bears the impress of a numerous people. The valley in which it is situated was a favorite one with the race of Mound-builders, and the hill overlooks a number of extensive groups of ancient works.

2. The stone fortifications in Clark County, Ind. This is a very interesting fort, situated at the mouth of Fourteen-mile Creek, on the Ohio River, at the point of an elevated, narrow ridge, which faces the river on one side and the creek on the

other. This fort presents many new and strange features. The ridge is pear-shaped, with a narrow point to the north, the broad part toward the river. It is two hundred and eighty feet above the level of the Ohio, though at the south end there is a terrace which is sixty feet above the river. Along the greater part of the river front there is an abrupt escarpment of rock, too steep to be scaled, and a similar barrier on the side facing the creek. This natural wall is supplemented on the north side by an artificial stone wall made by piling up loose stone without mortar. It is about one hundred and fifty feet long. It is built along the slope of the hill and had an elevation of about seventy-five feet above its base, the upper ten feet being vertical. The inside of the wall is protected by a ditch. The ridge on the south and southwest sides, or the broad end of the pear, is also protected by an artificial wall, built in the same way, but not more than ten feet high. The elevation of the side wall above the creek bottom is eighty feet. This artificial wall is supplemented by a string of mounds which abut against the wall on the inside, but which rise to the height of the wall throughout its entire length. Within the fort there is a ditch twenty feet wide and four feet deep, which separates the mounds from the enclosure, or rather from the ridge, on the summit of which the fort was supposed to be. The top of the enclosed ridge embraced ten or twelve acres. There are as many as five mounds that can be recognized on the flat surface. One near the narrowest part (the stem of the pear) was so situated as to command an extensive view up and down the Ohio River, as well as an unobstructed view across the river and a creek, both east and west. It is designated as Lookout mound.

The locality afforded many natural advantages for a fort or stronghold. Much skill was displayed in rendering its defense as perfect as possible at all points. One feature about the fort is unique. The wall is made up both of stone and earth, the stone forming a shield to the earth wall, part way up on the inside, and completely to the summit on the outside, the two together forming an elevated platform which overlooked the steep bank below, and offered an excellent opportunity for defense. The wall, and accompanying mound or earth-work, is situated below the summit of the ridge on an escarpment of rock, with a ditch on the inside, so that there was a double defense, the wall itself serving as an outwork, and the sides of the ridge inside forming a second barrier for defense. Prof. Cox says of this fort: "In the natural advantages of the location and in the execution of the bold plans conceived by the engineers of a primitive people, this fortification surpasses any which has yet been found in the State. The walls around the enclosure, which fill up the protected spaces, are generally ten feet high, but at a naturally weak point on the northwest part the gap was closed by a wall that from the outer case to the top was

seventy-five feet high. From the summit of the ridge, which is two hundred and fifty feet above the river, one can look over the beautiful scenery for a stretch of eight or ten miles up or down the Ohio River."

(3.) Prof. Cox speaks of a second fort or enclosure, on the spur of a ridge skirting Big Creek, in Jefferson County. "The ridge is protected on the north and south by a natural cliff, sixty-five to eighty feet high. Across the narrow neck of the spur of the ridge were two artificial stone walls, one seventy-five feet long and twelve feet wide, and the other four hundred and twenty-five feet long, leaving an enclosure between the walls of twelve acres. "The site of this ancient dwelling-place, like all others visited, affords an extended view for many miles over the country, north, east and south." Three stone mounds formerly could be seen, near this fort, upon level ground. One of them is called the egg mound, on account of its shape. "Stone was hauled from these mounds for building foundations, fire-places and chimneys for all the houses for miles around." "From the great fortified town at the mouth of Fourteen-mile Creek to the fortification at Big Creek, a distance of about thirty miles, there appeared to be a line of antiquities, that mark the dwelling-places of intermediate colonies; and these, when pushed to extremes by an invading foe, may have sought protection in the strongholds at either end of the line."*

V. A fifth mode of defense is the one to which we now call attention. It consists in the system of "walled towns" or villages.

We call them, for the sake of convenience, "walled towns". This is a significant term. It reminds us of the "walled towns" of the ancient and mediæval times, and suggests the idea that these may have been the outgrowth of such villages as prevailed in prehistoric times. We are to notice their peculiarities. Their peculiarities were: (1.) The villages were surrounded by walls, but were permanent residences. (2.) The villages were surrounded by ditches, sometimes upon the outside of the wall and sometimes on the inside. (3.) The majority of these walled villages had some high pyramid or domiciliary mound, which answered in a rude way to the temples. (4.) There was always a lookout mound in connection with the walled village, which served the same purpose as a tower. (5.) In many of the walled villages the domiciliary mound was located in the midst of the lodge circles, the arrangement of the lodges being around a square, the chief's house being in the square. (5.) Burial mounds are frequently found in these villages. These contain the greatest store of relics, giving the idea that care for the property as well as for the remains of the dead, was one element of village life. Let us consider the different classes:

Among the hunter tribes the walled village embodied it-

*See Geological Report for 1874, p. 36.

self in the stockade, a single enclosure constituting the defense. Among the sun-worshippers the walled villages contained three enclosures, though the object of these enclosures is now unknown. Some have accounted for these enclosures by imagining that the square was designed for the residence of the chiefs, corresponding to the public square of the southern Indians. The larger circle was the residence of the people, and included the corn-fields and kitchen gardens, while the small circle was the residence of the priest or medicine man. Among the stone grave people the walled village consisted of a wall, without bastions,

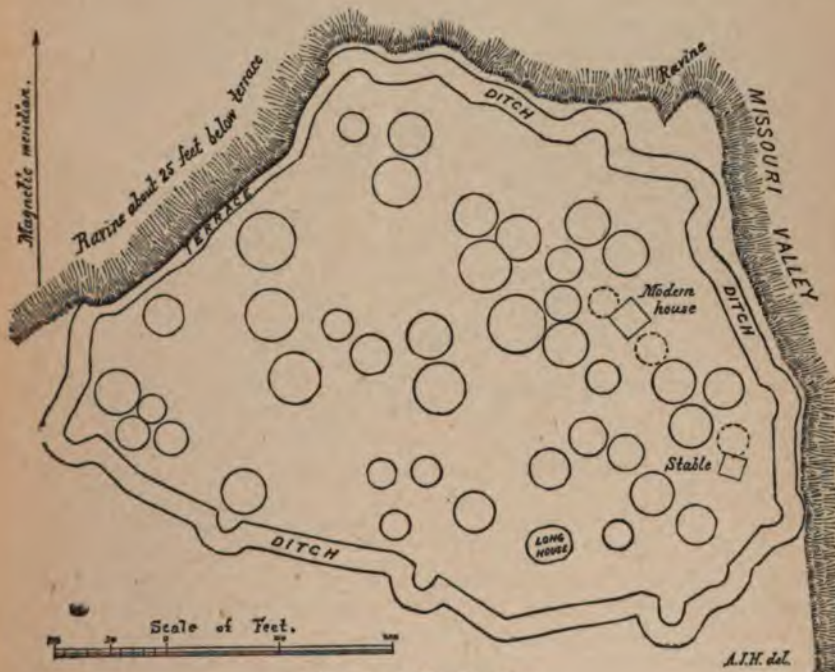


Fig. 10.—A Mandan Fort.

surrounding the village in the form of a semi-circle. Within this wall is found a series of earth-works—pyramids, cones, burial mounds, etc. These are very common in Tennessee. They may be called the mountain villages, or their builders may be called the mountain mound-builders. We give this name to them, not because they are on the mountains but because they are in a mountainous region, the Appalachian range being the only mountains in the Mississippi valley, or in other words, the only mountains in the Mound-builders' territory.

Another class of walled villages is the one found in Arkansas, among the cypress swamps. It consists of a square enclosure with an earth wall on all sides, the enclosure being filled

with lodge circles arranged in rows around an open square. In these villages there are large domiciliary mounds in the shape of pyramids, and many conical mounds. There is a resemblance between these villages and those of Tennessee; the shape of the enclosure is the main point of difference. A specimen of the fourth class of walled villages is found at Savannah, Tennessee. This is a square shaped enclosure. A peculiarity of it is the wall is built with bastions or redoubts resembling those of modern forts.

We will illustrate the subject by specimens of walled villages. (1.) The first is one common among the Indians, such as the Mandans. This consisted in a mere group of lodges arranged around a square. Some of the Mandan villages seem to have had walls with bastions. See Fig. 10. This reminds us of the



Fig. 11.—Walled Town on the Big Harpeth.

ancient village called Aztalan, in Wisconsin, which also had bastions and outworks. (2.) The villages found in the State of Tennessee. Mr. Jones says, "On the southwestern side of the Big Harpeth River, about two and a half miles from Franklin, Tennessee, is an earth-work which encloses about thirty-two acres of land. See Fig. 11. It is in the form of a crescent, which is 3,800 feet in length, situated on a perpendicular bluff forty feet above the waters edge. It was admirably chosen for defense. Within the earth-works are nine mounds, the largest, marked A, resembles a parallelogram two hundred and thirty feet in length, ten feet in breadth and sixteen feet in height. The remaining mounds vary from one hundred to twenty-five feet in diameter and one to four feet in height." The large oblong mound contained an altar with ashes and charcoal resting on it; this is near the original surface of the earth, and the mound seemed to have been erected upon the altar. Four mounds, marked B, C, D and F, also contained evi-

dence of hot fires in a red burnt stratum resembling brick in hardness.* The fort represented in the cut Fig. 11† is also situated on the Big Harpeth, about six miles from Franklin. This fort contains twelve acres. It has a crescent-shaped wall surrounding it, 2470 feet in length. There are two pyramids at one side of the enclosure. One of them (A) is sixty-five by one hundred and twelve feet at the base and eleven feet high; the other (B) is sixty by seventy feet at the base and nine feet high. This enclosure contains a large number of stone graves, arranged in rows at either side of the village. The probability is that the lodge sites of the villagers were contained within this fort and that the pyramids marked the sites of the houses of the chiefs, the burial place being also inside of the enclosure.

A village fort in the form of a circular enclosure has been described by Mr. Gates P. Thruston, as situated on the West Harpeth, about three miles from Oldtown. It is one thousand nine hundred and seventy feet in circumference, and contains about seven acres. The main pyramidal mound is one hundred and ten feet in diameter at the base and thirty-five feet at the summit. Its height is but nine feet. Dr. Jones says that "fortifications several miles in extent, inclosing two systems of mounds and numerous stone graves, lie along the Big Harpeth River, about sixteen miles below Oldtown." Within these aboriginal works, enclosing the sites of two ancient cities (villages), are found three pyramidal mounds about fifty feet in elevation, each one containing about one acre on its summit.

On the east side of the Tennessee River is the ancient work which has been described under the head of "The Civilization of the Mound-builders." This is more properly a bastioned fort rather than a walled village, and yet it contains many signs of permanent habitation. The main line measures, north and south, 1350 yards. There are the remains of redoubts at intervals of eighty yards. There are some sixteen mounds in this enclosure, the largest of which is thirty feet high and has a level platform at the top. It commands a central position and overlooks the entire works. The other mounds of the group range from twelve feet in height down to small elevations. The central mound was excavated by Mr. J. Parish Stelle, but proved to be a domiciliary mound, with no remains except a crescent-shaped hearth near the surface. A furnace mound found in the excavation was, however, more curious, as it was full of the traces of fire and many burned and charred logs.

A similar class of walled villages is the one which is found in the midst of the cypress swamps of Southern Missouri and Northern Arkansas. These swamps are very extensive, ranging

*The cut illustrative of this fort may be found in the paper on "Migrations," Fig. 7.
†The cut (Fig. 11) on the preceding page is illustrative of the fort described on this page. The reader will notice the similarity between the two.

from ten to twenty miles in width and twenty to forty in length. They all sustain a heavy growth of cypress, and so are called "cypries." Between these swamps are sandy ridges, thirty to forty miles in length and three to ten in width, leaving an elevation above the swamps of fifteen or twenty feet. Between these ridges are others which are quite narrow and low, scarcely three feet above the high water mark, with arroyos or low bottoms crossing them at intervals. It is supposed that during the time of the Mound-builders the present swamps were open water-courses, as all of their principal works were found on the ridges—never in the arroyos. The region is in great contrast with that in which the mountain villages were located, and yet the villages were very similar.

We now take a few specimens of swamp settlements as they have been described.

(1) The settlement called by Prof. W. B. Potter, the "Sandy Woods Settlement". That part of the ridge on which the village is located is somewhat isolated, and is nearly half a mile long by an eighth of a mile wide. The wall is at present two hundred and twelve feet high and seven feet wide; the ditch outside is one and one-half to three feet deep, by seven feet wide. A group of nine mounds and a large number of circular depressions, forming three sides of a parallelogram, characterize the settlement. The principal mound is rectangular, is sixteen feet high, and has a base of one hundred and twenty by two hundred and fifty feet; summit, one hundred and fifty-four by one hundred and ten feet. Next in size is the flat top conical mound, marked B. This is one hundred feet in diameter and is twenty feet high. Another mound, marked C, is one hundred feet in diameter and four feet high. The two mounds marked H, are the most interesting, as they are burial mounds. These contained a large number of skeletons and one thousand specimens of pottery. The skulls and large bones were well preserved. The lodge circles within these settlements are very numerous; many of them contained hearths. See Fig. 12. The open space in the center of the village was occupied by the burial mounds and the domiciliary mounds.

(2) The second village which we shall describe is near New Madrid. Here the ridge rises about twenty-two feet above the water. A wall around the settlement is on the edge of the ridge, but the most prominent mound is on the edge of the bluff. It is eleven feet high, seventy by one hundred feet in diameter. The burial mound, seven and one half feet high, contained skeletons in layers. The layers were drawn in near the center as the mound arose. At the top they were found lying six layers deep. In another mound a hearth was exposed twelve feet square.

(3) Another village near "Mound Church" is called "Mound Group". It stands on the edge of the bluff, fifteen feet above the

water. There are two walls about four feet high. The oval space has the great mound near its center. This mound is, like the space, oval in shape; has a diameter of two hundred and seventy feet by one hundred and forty to two hundred and eleven feet, height twenty-one feet.

(4) The settlement seventeen miles north of New Madrid is the best preserved of them all. The open space is elliptical. The large mound in the center is also elliptical; has a base of two hundred and thirty feet long and from one hundred and fifteen to one hundred and thirty feet wide. The mound opposite is eleven feet high and one hundred feet in diameter. These two mounds correspond to one another in position, and probably mark the site of the ruling classes, the one having been occupied by the chief and his family and the other by the priest or medicine man, or by the assembly, so resembling the rotundas and public squares, common among southern Mound-builders.

The peculiarities we recognize as common to these walled villages are as follows:

(1.) The villages all contain a large number of hut rings, also burial mounds and lookout mounds, and generally one or two large pyramidal mounds. These features are found in the Tennessee villages, though the hut rings are not so plain as in the Arkansas villages. The difference between them is that the Tennessee mounds contain stone graves, while the mounds in Arkansas contain large quantities of pottery, but no stone cists.

(2.) The arrangement of the villages. The settlement is generally on the edge of the swamp, and covers an area from two hundred to four hundred feet in width and from six hundred to eight hundred feet in length, filled with lodge circles or hut rings, burial mounds and domiciliary mounds. The lodges are generally in rows, each hut ring being of the same size. The average depth of the depressions is about two feet, the diameter thirty feet; the centers are from fifty to sixty-five feet apart. In the hut rings hearths of burnt clay are found at a depth of about fifteen inches, having a diameter of two to three feet.

(3.) The open space, in which there are no lodge circles, is always found in the center of the village. This space is sometimes elliptical and sometimes square. This answers to the public square of the Cherokees, and conveys the idea that the walled villages of the southern tribes were all alike.

(4.) There was always a pyramidal mound in the public square. This was probably the chief's residence. This mound is higher than all others, and overlooks the entire settlement, the top being frequently sixteen feet to twenty feet above the level. The size varies; in one case it is 120x250 feet, with a summit of 154x110 feet; in another case 210x270 feet at the base and 110x165 at the summit. There are sometimes two mounds, one rectangular in shape and the other oval. In a few cases the

rectangular mound is surrounded by a series of conical mounds. The burial mounds are within the confines of these settlements. These vary in height from four feet to seven and a half, and from forty to one hundred and twenty feet in diameter. They contain many specimens of pottery, a large number of human bodies. The bodies are sometimes in layers—the lower about one foot below the surface of the ground and the other within a foot of the summit of the mound, with six inches of dry earth between them. Near the heads, pottery flasks and bottles are found, and near the middle of the skeleton bowls and flat dishes. The number of bodies varies; sometimes as high as one hundred or two hundred are found in a single mound. From eight hundred to a thousand specimens have also been found in a single mound.

(5) The relics of the Mound-builders' handiwork found in these settlements are articles for household use or ornament and agricultural tools, with a noticeable absence of the implements of war or the chase. Pottery occurs in the greatest abundance, and always in the burial mounds. Beautiful specimens of spades and hoes, of white and yellow chert, well polished, showing the effects of use, are obtained from the open fields. Several engraved shells, one of them bearing the figure of a spider, the others of human figures, have been found.

(6) The ditch accompanying the villages is generally on the outside. It was probably use for conveying water around the settlement, as well as for defense. This feature reminds us of the fish preserves, and wide ditches which surround the groups of pyramids in the Gulf States. The villages were, however, defended by walls which were thrown up inside of the ditches. In this respect they differ from those of the Gulf States. The walled villages were evidently erected by an agricultural people—those in Ohio by sun-worshipers, and those in Tennessee and Arkansas by pottery makers. The Pyramid-builders do not seem to have built such walled villages, but depended upon pyramids for defense.

The picture presented is that of the village community as it existed in prehistoric times, in America, and it forms a fitting close to the article upon the Mound-builders' defenses. We have seen that there were five different methods of defense: First, the Signal Station; second, the Stockade Fort; third, the Hill Fort; fourth, the Stone Fort; fifth, the Village Fort. The village fort is, however, the most interesting of all.

COMPARATIVE ART.*

THE HISTORICAL ORIGIN OF ART.

Of the many problems in the history of art, none are so varied, so complex, or so interesting as those concerning its origin. It is a significant and important fact that the art which we know to be historically the most ancient, and to the remains of which we can either assign a definite date or give an age that is approximately correct, does not exhibit any elements of the beginning of a great intellectual movement, but on the contrary is so well developed, so highly finished, and so admirably executed as to render it impossible for us to obtain any idea of its primitive phases. Old as is the art of ancient Egypt, it throws no light on the question of its origin and its earliest stages are apparently as well developed as any portion of its growth.

The art of Assyria presents an identical problem. Possessed of many forms in common with that of Egypt, following it in many general characteristics, it is itself distinct, and can in no sense be considered another form of it. When placed in comparison with Egyptian art it suffers by the contrast. Much of the older art shows an intellectuality and earnestness, a reality and power, that is wanting in Assyrian productions. The great winged bulls and lions may be not unfavorably compared with the most stately sphynxes of Egypt, but with this exception the superiority of Egyptian art is very pronounced. Yet, apart from this, it is doubtful if Assyrian art had an Egyptian origin. The difference in methods, in styles, in expression, in subjects, were too great for the one to be the outcome of the other. Assyrian art followed Egyptian in many respects; the lower parts of the walls were decorated with figures and scenes in low relief, much after the manner of the sculptures which covered the walls of Egyptian structures. In the latter, however, the entire surface was covered, and the whole was colored in the most brilliant manner. In the former the sculptures were confined to the lower part of the walls, and the upper part was occupied by a series of pictures in enameled brick, an invention of the Assyrians, and a form of art which they carried to a high degree of perfection. Differences in material and the substances offered for artistic treatment had much to do with this. The valley of the Nile abounded with excellent and easily obtained stone, which formed an admirable substance for the builder and the artist. The valley of the Euphrates, however, was well nigh devoid of this useful article, and the builder was forced to place his chief dependence on clay and brick. It is, therefore, quite impossible to expect the technical methods of the one art to be followed by the other. Egyptian art frequently reached points of inspiration

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and its products are often worthy of comparison with the best of Greek art. The famous wooden statuette called the *Sheikh-el-Beled*, popularly known as the "Wooden Man of Boulak," which dates from the time of Cheops, is a remarkable piece of portraiture, and is admirably modeled. Many other portrait statues from the earliest dynasties, and later ones as well, exhibit a careful attention to individual characteristics, and show remarkable proficiency on the part of the artist. The wonderful portrait of Seti I. at Abydos, though in pure Egyptian style, with the usual sharp lines and angles, and in very low relief, is, in its way, as fine as any statue of antiquity. Assyrian art offers nothing at all comparable to such works as these. Portraiture may, indeed, have been practiced, but certainly not to the extent it was in Egypt. The refinement and finish that was characteristic of the larger part of Egyptian art is seldom to be seen in Assyrian, though the relief of the sculptured slabs is higher.

The Egyptian artist depicted the human figure both clothed and nude, with transparent garments and with richly colored robes. The Assyrian never employed the nude figure, but, on the contrary, the person was enveloped in a long close robe that fell almost to the ground, entirely hiding the outline of the body. Whatever may have been the idea which induced this usage, its results on the progress of art were unfortunate. The artist was unable to familiarize himself with the anatomy of the body, and in this respect was far behind the Egyptian. It is to be regretted that the Assyrians were prejudiced against the exposure of the person, since their representations of animals, both in a wild and domesticated state, show great freedom of execution and unrivalled truthfulness of expression.

The two civilizations were different in every respect, and it is only natural that their art forms should vary as much as their political and religious ideas or the natural resources of the regions they inhabited. The singular thing is, however, not that their development should differ, not that they should have forms of their own, but that, go back as far as we may, we fail to find a connecting link between them. There are instances where the art of one has influenced the art of the other, and there are not a few close parallelisms between them, but no indication of an organic or common union has yet been discovered. The remains of Assyrian art, however, are so vast and have been comparatively so little explored that at some future day material may be gathered which will throw some light on the historical origin of art. So far as our present knowledge of the history of art extends, it resembles a river having its source in two distinct regions. The most ancient forms are to be found in Egypt and Assyria. Each pursued a method of its own, and each exercised a powerful and weighty influence on the subsequent development of art. At no other period of history have we the spectacle of

two such independent forms of art. All later styles are but parts of one great movement.

Left alone, the art of Egypt and Assyria would have stagnated, and suffered the decadence which any intellectual movement undergoes when it fails to receive fresh and invigorating material. Egyptian art was held in bondage by the priesthood, and indefinite expansion was impossible. In Assyria, the unsettled state of the country, the constant wars, the rapid succession of rulers, all of whom sought only to immortalize their own name and perpetuate their own achievements, without regard to their predecessors or their work, rendered the position of art much less certain than in Egypt. Art could never flourish indefinitely under such conditions, while the peculiarly unprogressive quality of the oriental mind, whereby the same methods and the same ideas are maintained intact for centuries, operated still further to retard evolution. The infusion of new blood, the interchange of new ideas, and becoming acquainted with other forms of culture, were necessary to the progress of art. Yet even with the intercourse between Egypt and Assyria which sprung up in the course of time, and was hastened and perhaps strengthened by war and conquest, it cannot be said that the art of either gained much from the other. The field of each was too distinct, the place occupied by each too marked, the hold that each had on its own people too strong for any great change to take place. Possibly, had the contact of the two people been of longer duration, and had their intercourse been exclusive for a great length of time, a more pronounced influence might have been manifested. But intercourse with other people on the Mediterranean speedily followed contact with each other, and each became familiar with varied forms of art, so that what developments appear to belong to the later forms of art are to be attributed to many different sources and cannot be traced to one head.

The art of Egypt and Assyria was not destined to improve or develop under the influence of intercourse with other people. Their forms were peculiarly their own, they so thoroughly expressed the civilization and the ideas of their respective nations that the engrafting upon them of any foreign element must have been attended with a retrogression rather than a progression. Thus it is that the later forms of Egyptian art, what may perhaps be termed the renaissance, are utterly out of keeping with the spirit of the old forms, and rank among its most debased and unsatisfactory phases. This condition of things is of importance as showing the unique position occupied by Egypt and Assyria in the general history of art development.

Whatever may have been the limitations of the art of Egypt and Assyria, however narrow may have been the lines in which they developed, it is at least certain that they embraced a vast amount of material capable of being transformed by the genius

of other people. In other words, Egyptian and Assyrian art contained elements, suggestions, ideas, forms, methods which were of infinite value to people who were but beginning to practise art, and who were not hampered by the artificial conditions under which these forms had originated. It is this which determines the true value of Egypt and Assyria in art history, and it is this which enables us to estimate their true value in the working out of this remarkable development of the human mind.

Ancient art culminated in the Greek. However distinct any earlier form may have been, however independent its development, it was at the most but a single stage in the series that ended with the Greek. This is due to the people who occupied Asia Minor and the regions lying between Egypt and Greece, especially the Phœnicians, who by their constant and extensive intercourse with the coasts of the Mediterranean, carried the traditions of both Egypt and Assyria to the most distant known parts of the earth. Phœnician art is neither so interesting nor so extensive as that of Egypt or Assyria, but it is of value for a correct understanding of the development of the subject, as it shows in the most conclusive manner the intermixture of all the art forms of the ancient world, and is, in fact, the connecting link between the art of Egypt and Assyria on the one hand and that of Greece on the other. Occupying a country of narrow dimensions, possessed of only ordinary mental gifts, and distinguished by no taste for conquest, they nevertheless established themselves in all the known parts of the world that could be reached by ships, and made their name a power in parts remote from the mother country. More than this, however, they laid the world under an infinite debt of gratitude by the rapid means they offered for the distribution of the advanced culture of the East, and the thoroughness with which they diffused the knowledge of the world without apparently absorbing any of it. Certainly it did not again fall to the lot of a people of ordinary rank to hold so important a position in the advancement of humanity, and they are the sole instance of a people who have powerfully influenced the world without themselves being characterized by intense individual development. In no respect were they of greater service than in transmitting a knowledge of Egyptian and Assyrian art and in forming a hybrid style which, while full of imperfections and in many respects inferior to both of the older arts, served to point the way to the development of the Greek, and unquestionably hastened the production of a thoroughly intelligent and perfected art. Dominating as was the influence of Egyptian and Assyrian art in the extreme East, there grew up around these countries other phases of art which bore but slight traces of their influence. In these less important regions it was Phœnicia, not Egypt and Assyria, that especially manifested itself.

THE CHICHIMECAS.

BY C. STANILAND WAKE.

In his recent work, "The American Race," Dr. Daniel G. Brinton justifies his omission of the Chichimecs from among the tribes of the Nahuatl group by the remark that the term *Chichimeca* was merely a term of contempt applied to many barbarous hordes and had no ethnic signification. In support of this view, which may seem to be justified by the fact that the term in question means "dogs," "dog people," Dr. Brinton refers to an anonymous manuscript in the Bibliotheque Nationale at Paris, entitled "*La Guerra de los Chichimecas*," the writer of which explains the name as a generic term, applied to any tribe without a settled abode, and mentions the Tamis and two other tribes, who spoke quite different languages, as Chichimeca. Let us notice that there is nothing here about contempt or reproach.

At first sight, Mr. Bancroft may be thought to be of the same opinion as Dr. Brinton in relation to the Chichimecas. He seems to throw doubt on their existence as a separate people, and he states that their name means barbarians, etymologically "dogs." He adds, however, that it was applied to the more polished Nahuas to other Nahua peoples having identical institutions, and that "after the overthrow of Tollan, the 'dogs,' in their turn, assumed an air of superiority, and retained their designation Chichimecs as a title of honor and nobility." Mr. Bancroft says further that "the ease and rapidity with which their tribal fusion of tongue and culture is represented to have been accomplished would indicate at least that the Chichimecs, if a separate tribe, were of the same race and language as the Toltecs." They are said to have given name to the race of kings reigning at Tezcuca, one of the cities of the later Mexican or Aztec confederacy; while at the same time the term Chichimec was used to denote all the wild hunting tribes, particularly in the north. According to a tradition referred to by Mr. Bancroft the Chichimecas, whose native country was said to be of immense extent and called Amequemecan, came from the Seven Caves and their kings wore quetzal feathers. The native historian Veytia, as quoted by M. Charnay, states that the Chichimecas were one of the seven families which composed the original Toltecan race, and who were called after their chiefs. They all spoke the Nahuatl language, had hieroglyphic writings, knots

like the Peruvian quipus, and the same god, Nahuagu, and all, according to their traditions, came into Mexico from the north.

The reference to the country of Amequemecan may enable some light to be thrown on the race affinities of the Chichimecas. Father Boscana left a manuscript account* of the curious people of Northern California, whom he calls the Acagchemem nation, and whom he declares answers to the people described by Torquemada as Chichimecs. The Acagchemem had a curious tradition of the origin of their name. They said that at one time they had a female chief, Coronne, who, after dancing, fell down, "and her body swelled up prodigiously, and became instantly a mound of earth." This so frightened them that they ran away, but fell down and passed the night literally piled upon each other—men, women and children. When rising on the following morning, they cried out "Acagchemem," implying that they had slept in a heap, "and from that time the appellation remained, as if to commemorate forever the event." Father Boscana states that that term signifies a pyramidal form of anything that moves—such as an anthill, a place of resort of other insects. He makes no reference to a human dwelling, but the meaning of the name Acagchemem evidently points to a time when all the Indians lived together in a village dwelling of the pueblo character. Their tribal god was the coyote, or prairie wolf, and they had superstitious notions as to the bear, the rattlesnake and the crow, which would connect them with the Indians of the pueblos. Boscana thought the name Chichimec meant "sucker," and he says that the Acagchemem sucked the blood of the animals killed in the chase and ate the flesh but slightly cooked, habits in which they were excelled by the Comanches, who ate the raw flesh of the buffalo and drank its warm blood.†

The learned English ethnologist, Dr. Prichard, mentions that the Spaniards included the Chichimecas and the Comanches under the name of Mecos, who were described as settled Indians, having good clothing and houses, and as manufacturing articles for the neighboring tribes. They resembled in habits the Moquis rather than the Comanches. It is now recognized, however, that the Moquis belong to the Shoshone family, which is closely allied to that of the Comanches. Dr. Brinton refers to the native traditions that the Shoshones and the Comanches lived together as one people about two hundred winters ago. He mentions also two curious facts—that both those people are sun-worshippers, and that they both deify the coyote, which, as Dr. Brinton states, occupied an important position in the pantheon of the Aztecs, and which, as we have seen, was also deified by the California Indians. The Chichimecas are thus connected, through the Mecos, with the tribes classed together by Dr.

*Printed with "Life in California." By an American, 1846.

†Smithsonian Institute Report, 1876, Part II, page 49.

Brinton as the Aztecan, to which the Moquis belong, and therefore, although like the Comanches they were a wandering people, this was through habit or custom, and not because they were "dogs" incapable of a settled life. The readiness with which the Chichimecs referred to by Mr. Bancroft adapted themselves to civilization of the Nahuatl type may be evidence that their ancestors had not been strangers to it. Possibly they had been compelled to abandon a settled life by the irruption of more warlike tribes, as the probably allied Pimas were driven from their settlements in the Gila Valley by the Apaches and other northern tribes.

The fact of the Comanches being sun-worshippers is interesting, because it connects them with the Chichimecas of French Louisiana. Dr. Brinton names among the tribes of this region the Chitimechas, who are said to have had the noon-day as their chief deity. According to the old writer Adair, the Chickasaws, called by him Chicacas, told the English traders that about forty years before some of the old Chicaca nation came from Mexico in search of their brethren, and reached the Mississippi about one hundred and thirty miles above the old Natchez towns, but were driven back by the French. Adair adds that the old Chicacas were the Chichimecas of the Spaniards. Gallatin mentions that the Chitimechas formerly lived west of the Mississippi, but that they were attacked and driven from the country for having massacred a considering number of the French settlers. Possibly this may be the French side of the Chicaca story. DuPratz asserted that the Chitimechas were kindred tribes to the Natchez, and, although Gallatin was of a different opinion, judging from their language, their common practice of sun-worship may be regarded as supporting the French traveler's view. He gives a tradition of the migration of the Natchez, according to which they came from the southwest in the direction of Mexico. This agrees with the Chicaca statement as to the original home of their own people. Adair remarks that this nation was at one time so powerful that their language was used as a common tongue by all the tribes of French Louisiana, on both sides of the Mississippi.

The legends of the Chickasaws and the Choctaws show that these formerly powerful nations at one time formed but one people. In appearance the Chickasaws were short and heavy—differing from the Creeks, who were tall and slender—and in that respect they agreed with the Comanches, who are described as being stout and short in stature. Nevertheless, the Creeks, who appear to have come from the west at a much later date than the Chickasaws, are classed with the latter by language, and among them was found reverence for the serpent, which is still met with among the Moqui and Zuni village Indians. Both the Shoshones and the Comanches are snake Indians, the tribal sign of the latter

in the gesture speech of the prairie being, as Dr. Brinton states, that for the snake. The prevalence of the serpent superstition among the Mexican peoples renders it probable that it was not unknown to some of the Chichimeca tribes. We have seen, however, that this name denotes "dog-people," and in this fact we may possibly have another means of discovering their race connections. It has been already mentioned that the coyote was deified by the Shoshones and the Comanches. Dr. Brinton states that the myth makes the wolf and the coyote the two brothers from whom the race had its origin, and that it ascribes the origin of all good things to the latter. We learn from Mr. Bancroft that most of the California Indians claim to be descended from the coyote, and more remotely from the soil. The tradition of their origin told by the Navajos recognizes a race of coyote men. They say that at one time all the nations—Navajos, Pueblos, *Goyoteros*, and white people—lived together underground. Mr. Cushing states that one of the most powerful of the secret orders among the Zúnis is the *blood or coyote* order, that of the hunters of the nation. In the Papagos country south of the Gila the coyote is first met with, says Mr. Bancroft, as a prophet and an assistant to the hero-god Montezuma.

The Navajos place the underground home of mankind near the San Juan River, but as they are known to belong to the Tinnéh stock, we must look much farther north for its original location. The Chinooks of Oregon say that mankind was created by a coyote, but the Tinnéh of the far north pretend to another origin. They have a legend, according to which an old woman, then the only human being in existence, was followed by a dog. The dog changed itself into a handsome young man, who became by the woman the father of the first people. The world was then in an unformed condition, and a great giant, whose head reached the clouds, came to reduce order out of chaos. He fixed the lands in its bounds, made the rivers, and then tore the dog into pieces, which he threw about to form different animals. Other Tinnéh tribes say "the world existed at first as a great ocean, frequented only by an immense bird, the beatings of whose wings was thunder and its glance lightning. This great monster descended and touched the waters, upon which the earth rose up and appeared above them; it touched the earth, and therefrom came every living creature, except the Tinnéh, who owe their origin to a dog. Therefore, it is said, to this day a dog's flesh is an abomination to the Tinnéh, as are also all who eat such flesh." Mr. Bancroft, who gives these legends, says elsewhere that according to Mexican tradition, after the flood men were changed into dogs, that is, Chichimecs.

The facts here referred to point to the existence of a "dog-people," who probably originated in the far northwest of the continent, but gradually spread down into the Mexican area,

where they were known as Chichimecas, and afterwards along the north of the gulf to and beyond the Mississippi. Although that people belonged to what is known as the Tinneh or Atabascan stock, they were closely allied to the Uto-Aztecan tribes of Dr. Brinton, many of whom deified or otherwise superstitiously regarded the coyote or the wolf. This seems to have been the case more especially with the settled or village Indians, probably for the reason that the coyote and the wolf, as wild animals, are more savage than the dog. The coyote would be looked upon also as being more cunning, thus answering to the fox or jackal in Old World myths. At the same time there can be little doubt that the native American dog was originally a domesticated wolf or coyote. Gallatin refers to the statement of Lawson, who visited the southern Indians in 1700, that they had no other dogs than domesticated wolves; which is consistent with the fact that the Copper-mine Indians of the north improved their race of dogs by crossing them with wolves, which they catch when young. Superstitious notions in connection with the dog were not unknown to the "red men" of the eastern area of North America. At the New Year's jubilee of the Iroquois a white dog was burned on an altar of wood. The simplest idea of the sacrifice, says Dr. Morgan, in his "League of the Iroquois," was "to send the spirit of the dog as a messenger to the Great Spirit, to announce their continued fidelity to his service, and also to convey to him their thanks for the blessings of the year. The fidelity of the dog, the companion of the Indian as a hunter, was emblematical of their fidelity." Dr. Morgan adds that this was done in pursuance of a covenant of the Great Spirit with their fathers. A string of white wampum was tied around the dog's neck as a pledge of faith. The dog was offered as a sacrifice also among the Algonkins, as appears from an incident of the great conspiracy of Pontiac, related by Parkman. After the capture of the British forts, a party of Indians were crossing the River St. Lawrence when a storm arose, and the Indians, becoming frightened, offered up a dog to appease the angry Manitou of the storm. These superstitious observances show that the earlier Indians did not belong to the dog-people. They belonged rather to the wolf stock, but, as I endeavored to show some time ago in *THE AMERICAN ANTIQUARIAN*, the lesson to be derived from the study of the Indian totems is that all the tribes of the eastern area must be referred for their origin to the northwest, the original home of the Chichimecas, or dog-people.

DELAWARES AND DAKOTAS.*

BY GEN. J. S. CLARK.

I have been greatly interested in reading your article on the "Delaware Indians in Ohio," and, while agreeing with you in the main, I fear that in some particulars you have fallen into serious errors. Presuming that you are anxious only to reach the truth, and will not be offended by friendly criticism, I take the liberty of calling your attention to a few points. You say: "They (the Delawares) were subdued by the Iroquois as early as 1620."

The wars of the Iroquois against the tribes of the Susquehanna (Iroquois tribes) begun as early as 1615 and continued with intervals until about 1675, when the Susquehannas, located near Columbia, were the last to fall. These have been called by various names: by the French, *Andustique*; by the English of Virginia, *Susquehannas*; and by the Swedes and Dutch, *Minquas* and *Suscohannas*. In 1661 the Senecas were at war with them. In 1662 William Bukman reported to Gov. Stuyvesant that on the 3d of December five Minqua chiefs arrived at Attena (now Wilmington) and informed him, among other things, that 800 *Black Minquas* were shortly coming to their assistance, that 200 had already arrived, and that they were fully resolved to go to war with the Senecas next spring.† Heckwelder has explained that the Black Minquas were the *Monsey Tribes of the Delawares*. In 1663 the Senecas with 800 warriors, accompanied by their wives and children, numbering 1600 in all, moved against the Minquas (Susquehannas) near Columbia, but were ingloriously defeated. You will find a very interesting account of this in *The Magazine of American History*, April, 1878, p. 244, by LaSalle. At this date the Susquehannas could muster 800 warriors and the Black Minquas 1000, and not until several years after this were the Lower Susquehanna tribes and the Monseys brought under subjection.

You say: "In 1758 was the last time their name (the Delawares) appeared among the tribes east of the Alleghenies." In view of the fact that Teedyuscung from 1756 to 1764 was the leader or king (as they called it) of a large number of Delawares on the Upper Susquehanna and Chemung Rivers and

*This letter from Gen. Clark was written in 1880.

†Colonial History of New York, XII, 419.

gave the province of Pennsylvania and Sir William Johnson such infinite trouble, so that Sir William, in 1764, sent expeditions and destroyed eight villages on the Chemung, it would seem that you were slightly in error, concluding perhaps that because there were a large number on the Alleghany and Ohio there were none east of the mountains.

They were not free from the dominion of the Iroquois, and united with the Shawnees. The Shawnees were also "women" and subject to the Five Nations through the Mingos, who were placed there purposely to rule over them, as did Shikelling for many years while they were on the Susquehanna. Previous to Celoron's expedition, 1749, and the subsequent effort to secure French supremacy on the Ohio or south of the lakes, a large proportion of the Delaware clans had removed to the Alleghany and Ohio. Most of these were in sympathy with the English, but as the French came in a great number returned to the east of the mountains, and to a certain extent they were divided. Those east of the mountains had their kings, as did also those west, but they appear to have been independent of each other, but all subject to the Iroquois.

The many migrations and general mixing up of tribes makes it exceeding difficult to describe this period. I have succeeded in a measure in untangling the matter east of the Alleghanies, and have made some progress west, but the work goes slow on account of the scarcity of data. I have ascertained the exact date at which the Nanticokes became tributary, in 1680,* at which time they were presented with a large wampum belt, twenty-one rows wide, with three black hands wrought in it. In 1712 Allommapas headed the delegation to bear the annual tribute to the Five Nations, bearing the great calumet, which had been delivered to the Delawares on the conclusion of peace. He said it had been delivered many years previous.†

My conclusions are that the Susquehannas were completely subjugated about 1670, and that all the Delawares fell with them at that time, or within a few years after, and undoubtedly during the reign of Tamanen, who was living and was king as late as 1694. They certainly sustained their independence some years after 1663, and were threatening to invade the Senecas' territory in that year with the combined forces of the Susquehannas and Delawares.

In speaking of the Delawares I think it would be better to describe them as a nation or confederacy of tribes, for there was no less than six and probably ten different and distinct tribes located on the Delaware River. This remark applies equally well in speaking of the Tuscaroras, Shawanese, Eries, Andastes, and, in fact, nearly all are generic terms. The Catawbas were made up of half a dozen different tribes, the Tuscaroras not less

*Pa. Col. Rec., II, 387.

†Ibid, 546.

than four, and as the term Andastes has been used not less than fifteen or twenty tribes must be included.

I find that Dr. Morgan is disposed to classify the Catawbas among the Dakotas, as also all Iroquois dialects. This brings out a new idea, for with the Saponas, Toterros, Nottoways and Catawbas added to the Tuscaroras, we have an aggregation of Dakotas east of the Alleghenies numbering many thousands, and to these may possibly be added a half dozen others of small tribes in the immediate neighborhood.

Take the Saponies, for instance, known by cotemporary writers under half a dozen different names and whom Gallatin classed among the Iroquois; called by the Iroquois, Toderiks; by the French Panis; west of the Mississippi, Pawnees, alias Naudowasses, alias Dakotas, alias Sioux. These purely Dakotas were on the Atlantic coast in 1700. Did they reach there from the west, or did the western tribes migrate from the east? I presume both questions should be answered in the affirmative, but to trace this particular clan from Carolina to Pennsylvania, from Pennsylvania to New York, from thence to Canada, and another portion from Carolina westward to the western plains, becomes a somewhat difficult problem, and when we attempt the tracing of the many tribes in their devious wanderings, the labor becomes one of great magnitude. I have no faith in the idea of the absolute destruction of the many tribes said to have been destroyed. They re-appear under new names. Many were undoubtedly killed in the wars, many were captured, but more escaped and formed new alliances. The same clans that welcomed Hudson still exist in the west. The same tribes found by DeSoto are now on the western plains, and the same clans found by Captain Hendricksen on the Delaware in 1614 can be traced to their present homes west of the Mississippi. The term Delaware covered a wide field and numerous tribes.

Auburn, N. Y., February 2, 1880.

Correspondence.

BURIAL MOUNDS IN WISCONSIN.

The following communication is taken from *The Northwestern*, Oshkosh, Wis.: Mr. J. G. Pickett of Pickett's Station, Wis, has a collection of prehistoric stone and copper implements, some two hundred specimens being shown, ranging from a stone mortar weighing 200 pounds to a tiny flint arrow, half an inch in length. Many of them were very rare, and nearly all of them were found within two miles of the station. A most interesting account was given by Mr. Pickett of a recent exploration made by him of a mound near the station. The mound selected was the one originally the most prominent. The excavation was made in the center of the mound, about ten feet square, the soil being the same as the surface soil of the field for about three feet. Then came the apex of a smaller, inner mound, oval or dome shaped, the covering of which was cement, apparently made of a grayish marl and sand, about four inches in thickness, and so hard that it was with difficulty broken through with the spade and removed. Under this cement covering was again surface soil, covering and intermingled with what was undoubtedly, perhaps a thousand years ago, the remains of some ten or twelve Mound-builders. The remains were packed closely together, the heads in the center of the mound and the feet extending outward in a circle, and all lying upon the face with the arms extending above the head. The bodies appeared to have been placed upon or a little below the surface all at the same time, slightly covered with dirt, forming a little mound, which was then carefully covered or encased by a roof of cement, and over which was then built the large mound of earth. The only implements found were a stone celt or fletcher, a small stone axe and two or three flint arrows.

The general covering had so perfectly excluded all moisture that the skeletons had been quite well preserved, and from size and appearance they all seemed to be adult males. Mr. Pickett was able to secure several skulls in a very fine state of preservation. He has excavated a great many mounds in different parts of the State, and he says that in every instance where intrusive burials have been made by the Indians in the mounds which they found ready made, the body is deposited above what was the original surface of the ground, while the Mound-builder invaria-

they deposited his dead upon it a little below the surface where they were either cremated or their bodies, as in this instance, covered slightly with dirt, exposed in cement and then covered by the earth mound.

THE VILLAGE

THE VILLAGE

In the last number of your journal you speak of Fort Anderson in connection with the other "hill-top" earth-walls of Ohio. In the course of your remarks you say that the regular walls of the new fort north part of Fort Anderson would indicate that it was a village enclosure.

This is not the case, the fort south part being the village enclosure. Some forty-five enclosures were built in the new fort by the party of surveyors with which I was connected last summer and one of the walls of village enclosure was found beneath the surface of the new fort. Over the ground is strewn with flint chips and many old arrows have undoubtedly been manufactured but there is not to be found pottery fragments, split bones, broken stone implements, etc. etc. etc. that always occur upon a village locality.

In the old fort the ground is not only strewn with refuse, but the soil to a depth of four feet is charged with broken pottery shards, broken stone, etc. There are graves too, near the village and one or two has ever been found in the new fort. Within the double outside of the new fort have been found *shells* of many sorts, also in the adjoining fields.

The enclosure would never be reached by walking over the ground enclosed; you would have to dig and shovel for yourself the location of the village. Having done with these masses of bones and the hundreds of pottery fragments there would never be a doubt as to the real purpose of the old fort.

I trust that this explanation will not be made in vain.

WALTER K. MOOREHEAD.

Wm. J. G. Co.

Editorial.

THE SPHINXES OF MICHIGAN.

The discovery of relics in the pineries of Michigan was mentioned in our last number. Prof. Foster, of Evansville, has visited the region, and written an article for the *Inter Ocean* and has pronounced them frauds. The pictures represent sphinxes and Egyptian looking figures. The day is past when Egyptian figures on American pottery will be taken as genuine. The "prima facie" evidence is that they are not.

There is, to be sure, a picture in the "Ancient Monuments" which represents a pipe with an Egyptian looking face, and with a head-dress and bands about the arms and legs, which might be taken as Egyptian. This pipe is described by Humboldt as found in an ancient tumulus in Connecticut. There is a mistake about it. If it was genuine it may have been a Southern Indian, though the shape of the pipe is the same as an Ohio pipe; a female in the peculiar attitude which is so common, upon the knees. Human-headed animal figures are sometimes found among the mounds. These specimens have but little resemblance to Egyptian sphinxes, even if they may be called *American Sphinxes*.

We take the occasion to say that the fabricators of fraudulent relics will have to study American archæology more closely if they are going to succeed in palming off their wares.

A relic was shown to the writer which, it was said, was taken from an artesian well near Elgin, near an old river-bed. It was made of the soap stone, common in Germany, and represented an animal with its head turned back, looking at a bird which was resting on its rump. The marks of the knife were plainly to be seen. It was a modern piece of carving. No American semblance to it.

These articles in Michigan are imitations of more ancient figures, square boxes made out of pottery covered with figures of Egyptian propylæ and Egyptian sphinxes.

Some one in Michigan is certainly bent on mischief, for sawed relics have been sent to various collectors. Parties who have sent them have been threatened with suits. The government will have to take this subject up and enact laws, and make it a criminal offense to fabricate such articles.

ARCHÆOLOGICAL NOTES.

THE AMERICAN ASSOCIATION will meet at Washington, D. C. August 19-22. There will be special interest in Section this year. Excursions will be taken to localities in the vicinity of Washington. Many topics will be brought up for discussion.

AN INTERNATIONAL CONGRESS of archæologists and ethnologists will be held in Chicago during the session of the World Fair. The departments will be divided according to geographical lines. Archæology, mythology and ethnology will all be represented. The committee to extend invitations, as at present constituted, consists of Rev. Stephen D. Peet, Ph. D., editor of AMERICAN ANTIQUARIAN, chairman; Mr. C. Staniland Wake, the English ethnologist; Prof. F. W. Putnam. It is expected that a very large number of learned men will be present at this congress.

NORUMBEGA.—Prof. E. A. Horsford has published a sumptuous volume in defense of his favorite theory of the Northmen having visited America in the eleventh century.

MUMMIES.—One hundred and sixty-three mummies and seventy-five papyri are housed in the museum at Ghizeh. Many of them were discovered last February at Dehr-el-Bahari.

BANDELIER.—A series of papers on early explorations in New Mexico and the interior are being issued from the pen of Augustus Bandelier. It embraces the journal of Cabeza De Vaca.

OSTEOLOGY.—Mr. D. D. Slade, of Cambridge, has written for *Science* some interesting articles on osteology.

PROF. G. F. WRIGHT has prepared a pamphlet on the recent find at Newcomerstown, Ohio, published by the Historical Society of Cleveland. He also has described the glacial groove in Kelly's Island, a sample of which has been preserved in the cabinet of the same society.

MISS ALICE C. FLETCHER.—An endowment of \$30,000 has been given to the Peabody Museum as a fellowship fund for the benefit of Miss Alice C. Fletcher.

MRS. MARY HEMINGWAY has done good service in sending expeditions to the interior of this continent. Mr. Walter Fewkes headed one expedition, and has published a monogram under the title of *Journal of Ethnology*. She is now assisting in the publication of the valuable studies of Bandelier in the same re-

gion, thus furthering the prehistoric and early historic researches and discoveries by appreciative and intelligent benefactions.

MR. DAVID BOYLE is doing good service in the line of archæological research in Canada. His reports to the Canadian Institute are very valuable.

THE HURONS.—This tribe, located in Canada, was allied with the Iroquois. Mr. D. B. Read states that the Hurons were at Hochelaga in 1535. The question arises whether there was a race, which may be called Hochelagans, preceded them. Sir William Dawson says there was. This whole question of Indian migration needs to be studied more thoroughly. The Shawnees are now the Mound-builders of the south, though of Algonkin stock. In the midst of the Mobilians or Muscogees they built pyramids. Cherokees, of Iroquois stock, build rotundas, and occupy the pyramids which perhaps were erected by the Muscogees or some earlier people. Which were the first mound-builders? We have generally supposed the Algonkins to be the late comers, for they are the hunters and the wanderers. Iroquois and Hurons were sedentary and were agriculturists; the Cherokees and Dakotas were wanderers. It appears that many Dakota tribes were once east of the Alleghanies. Were the Dakotas originally Iroquois, allied to the Cherokees?

GEN. J. S. CLARK.—It is a great pity that Gen. J. S. Clark could not have given the fruits of his mature scholarship to the world. A letter written in 1880 is published in this number. At that time he said: "I have been greatly interested in your magazine. If my views are of any value I will, at an any early date, furnish a series of articles for publication, and use my best efforts to make them interesting and valuable. The class of information I seek is difficult to reach, and requires much rummaging in local and general history." No man was better qualified to give information on the above subject.

TREE AND SERPENT.—A stone pipe taken from a mound in Kentucky, opposite Lawrenceburg, Indiana, is in the possession of the Canadian Institute. It represents a gruesome, wry face, with glaring eye-balls, which are like cylinders and which give the countenance a wild expression, also a large open mouth and a crooked nose. A tree stem originates in the lower part of the neck, one small branch curving gently up the left side, another branch at the right side. At the side of the tree, and around the face, is a serpent. The head of the snake is at the bottom of the tree, the body twisted around the neck, in under the chin, over the face, across the ear, the tail terminating at the back of the head. The stem was in the trunk of the tree, the bowl above the tail of the snake at the top of the head. Here we have the serpent and the tree. Mr. A. C. Billups presented it to the Institute, and stated that he had taken it from a mound.

Lawrenceburg is near the mouth of the Great Miami, where some of the most remarkable of the Mound-builders' forts are found. This pipe, if genuine, is the most valuable in America.

CANADIAN INSTITUTE.—The Transactions, Vol. I, No. 2, contain an article on "The Dene Languages," by Rev. A. G. Morice. He says the Dene has affinities with the Ayran, Turanian and Semitic languages, and suggests a mixed origin for the whole stock of western tribes. The Denes are a large tribe of Indians—Tinneh or Athabascans. We shall expect our associate, Mr. Gatschet, to review this article, as it brings up some leading points.

THE INDIAN IN POETRY.—A paper was read before the same institute by M. Chamberlin on the very interesting subject mentioned.

THE noted Egyptologist Brugsch Bey has written an article on the stone discovered near Luxor by the American traveler Wilbour, and has distinctly recognized in the notice of a famine of seven years there made a reference to the events in the days of Joseph. Brugsch Bey has published an elaborate edition of the inscription, covering 166 pages of text, together with 32 autographic pages of the inscription, and five woodcuts, as also an interlinear translation. The geographical and historical data secured from this new source of information for Egyptian and Biblical history are fully brought out. He believes there can be no doubt whatever that we really have here the first monumental testimony as to the historical character of the book of Genesis on the subject of the Egyptian famine.

MR. H. LING ROTH has published a work on "The Aborigines of Tasmania," illustrated with numerous autotype plates from original drawings by Edith May Roth. In the preface to the work, Dr. E. B. Tylor says that in it "the recorded knowledge as to the extinct native race of Tasmania has been brought together with, I think, an approach to absolute completeness."

DR. ROBERT MUNRO.—In a fully illustrated work on "The Lake Dwellings of Europe," Dr. Robert Munro has embodied the results of a journey through the whole of Central Europe with the view of collecting materials, by direct observation, for his course of lectures in archæology. The work is divided into six sections, of which the first deals with the settlements in Lake Zurich, Western Switzerland, and France; the second with settlements in Eastern Switzerland, the Danubian Valley and Carniola; the third with lake dwellings and pile structures in Italy; the fourth is devoted to the special character of the remains found at LaTene and in the lake Taladru, and to the lacustrine and marine dwellings in the Lower Rhine district and North

Germany; the fifth class treats of the lake dwellings of Great Britain and Ireland, and the sixth discusses the culture and civilization of the lake dwellers of Europe.

AMERICAN NUMISMATIC AND ARCHÆOLOGICAL SOCIETY.—(Extract from Minutes.) The annual and anniversary meeting of this Society was held on March 16, President Parish presiding. The Executive Committee and the various officers of the Society presented their annual reports. John S. Kennedy was elected a life member, and Rev. Arthur Brooks and Prof. Sigmund Oettinger were elected resident members. The Librarian reported 114 additions during the year, making a total in the library of 3,979. The Curator of Numismatics reported donations of 754 pieces during the year, and a total in the cabinets of about 7,888. Vice President Andrew C. Zabriskie presented a resolution that a committee of five be appointed to raise \$50,000 to purchase a building for the permanent use of the Society. Mr. Zabriskie also started the fund with \$5,000. The annual election resulted as follows: President, David Parish, Jr.; Vice Presidents, Andrew C. Zabriskie, William Poillon and David L. Walter; Secretary, H. Russell Downe; Treasurer, Charles Pryer; Librarian, Lyman H. Low; Curator of Numismatics, Charles H. Wright; Curator of Archæology, Edward Groh; Historiographer, William R. Weeks. . . . A regular meeting of the Society was held on May 18, at 8 P. M., President Parish presiding. The Executive Committee reported the receipt of acceptances from Life Member John S. Kennedy and Resident Member Rev. Arthur Brooks. Attention was called to the death of Resident Member Oliver P. Hatfield. Charles Stayerwalt of Lancaster, Pa., was elected a resident member: The Curator reported donations of twenty-five pieces since the last report. A letter was read from Permanent Corresponding Member Ohnefalsch Richter, of the Royal Berlin Museum, Berlin, Germany, announcing his proposed visit to this country, and that he would read a paper before the Society in January, 1892, on "The Antiquities of Cyprus," etc.

THE WESTERN RESERVE HISTORICAL SOCIETY has published in a pamphlet two short articles by Mr. W. C. Mills and Prof. G. Frederick Wright on the discovery of a paleolithic implement at New Comerstown, O. It was found fifteen feet underground in the undisturbed gravel of the glacial terrace which everywhere lines the valley of the Tuscarawas River, and was dug out of the bank by Mr. Mills himself. It is a perfect representative of the paleolithic type found in northern France and southern England, is four inches long, two inches wide and one and a half inches through at its larger end, tapering gradually to a point and carefully chipped to an edge all around. This is the fifth locality in which similar discoveries have been made in this country, the other places being Trenton, N. J., Madisonville, O., Medora,

Ind., and Little Falls, Minn. Professor Wright had previously indicated the Tuscarawas Valley as one of those places where such implements might be expected. This relic of man's occupancy of Ohio thus found in a glacial terrace belongs, says Professor Wright, to a race living in that distant period when the ice front was not far north of them and when the terraces were in process of deposition. Thus this race is unquestionably linked with the great ice age.

PROF. J. NORMAN LOCKYER, in *Nature*, gives his indorsement to the notion that the long chronologies of Genesis represent lunar years. He says: "Thus, for instance, in Egypt, the sun being used, the unit of time was a year; but in Chaldea the unit of time was a month, for the reason that the standard of time was the moon. So that when the people began speaking about periods of time it was quite easy for one nation to conceive that a period of time was a year when really it was a month, and vice versa. It has been suggested that the years of Methuselah and other persons who are stated to have lived a considerable number of years were not solar years but lunar years—that is, properly, lunar months. This is reasonable, since if we divide the numbers by twelve, we will find that they come out very much the same length as lives are in the present day."

ADVICES just at hand from the Cape say that explorers who have been engaged in investigating the ancient and mysterious ruins of the Zimbabye in Mashonaland have found images and pottery which, so far as they can judge, are supposed to be of Phœnician origin and design. The unearthed relics are coming to England that the inscriptions upon them may be deciphered by expert scholars.

THE VICTORIA INSTITUTE.—At the annual meeting of Victoria Institute Capt. F. Petrie read the report and congratulated the members on the steady increase of the society. Capt. Petrie gives an idea of the nature of that increase by mentioning that when he, as one of the Committee of Founders, was entrusted with the honorary secretaryship twenty-one years ago, the total number of subscribers was 169. Since then the very careful management of the Council had resulted in their now being enabled to announce a total of 1,402 members; the Institution possesses a large and thriving offshoot in America, called the American Institute of Christian Philosophy. Among those that had contributed to so successful a result, the members themselves were the foremost, for they had supported the Council by inducing friends to join, and by their own loyal and unswerving support. Among the indications of the value set upon the transactions was the fact that in India, South America, Spain, Italy,

Portugal, and elsewhere, local members had translated and published some of the papers, without any help from the institute itself. M. Edouard Naville referred to his efforts to discover places of historical interest in Egypt, especially those connected with sacred history. Since his identification and discovery of Pithom he had identified Succoth, and more recently the light thrown by the recently discovered papyri and other records which he had examined, went far to enable him to identify Baal Zephon, Pi Hakiroth and Migdol. Ancient writings had also thrown light upon some points, especially the extent of the Red Sea; besides Pharaonic and Ptolemaic texts, inscriptions had been found showing that Pithom was Hieropolis, and ancient writers refer to its being a shipping port at the head of the Arabian Gulf. Strabo, Pliny, Agathemerus and Artemidorus all do so, and modern geologists, including Professor Hull, F. R. S., have referred to the recession of the Red Sea through the slow rising of the land.

THE PATRICK COLLECTION.—The Missouri Historical Society has recently come into the possession of a valuable collection of prehistoric relics, which Dr. Patrick, of Belleville, Illinois, has been engaged for twenty-five years in gathering. The collection embraces the relics of the district situated between Keokuk and the Illinois River, a locality which abounds with small discoidal stones as its typical relic; also the district from the Illinois to the vicinity of the Cahokia mound, a region abounding with stone graves and large chipped flint relics; and the region from Cahokia to Kaskaskia, the great agricultural center of the Mound-builders. In this last locality the typical specimens are the agricultural implements, such as flint hoes, spades, picks, and the large ground stone celts, some of which are fifteen inches in length. The Society now has the best collection of Mound-builders' pottery extant. It has also a large quantity of flint relics, representing all the arts and industries of the prehistoric people. It is well that the western specimens are being gathered into western cabinets, for they represent the very things which the western mounds but partially disclose, but when taken with the mounds furnish the complete record.

BOOK REVIEWS.

The Story of a Mound; or, The Shawnees in Pre-Columbian Times. By Prof. Cyrus Thomas.

Dr. Thomas is continuing his chosen work of showing Indians to be Mound-builders and Mound-builders to be Indians, with the idea that by this means he can carry back the record of the historic tribes into prehistoric times. We do not know but that success will crown his efforts, and that he will in time break down all the barriers and convince the public that the Mound-builders were a very recent people. We, however, are not quite prepared to give up the position we have taken that the mounds are more ancient than the historic works, and that the advanced character of the contents of the mounds are not to be explained by proving the contact of the white man with the Mound-builders.

We acknowledge that some of the relics are very singular and not easily explained. None of them are perhaps any more difficult to explain than the very relics which Dr. Thomas describes when he writes the "Story of a Mound." The relics referred to are copper tablets, on which are portrayed human figures with wings extending from their shoulders. These figures, were it not for the peculiar head-dress and costumes and tattooed faces, might, according to the author, be placed among the illustrations of Christian art described by Mrs. Jamison. Dr. Thomas' argument is that these peculiar relics could not have been deposited in a mound of prehistoric times, but must have been the work of some Indian subsequent to the time of the discovery. He selects the Shawnee Indians as the particular tribe which dwelt here, built the mound and deposited the relic. There are several accidental coincidences on which he builds his argument. 1. The resemblance between the stone cists found in the depths of this pyramid mound and the stone graves found on the banks of the Cumberland, in Illinois and Southern Ohio and elsewhere. 2. The resemblances between these ornamented relics found in this mound and those found in the mounds of Tennessee, Arkansas, Missouri and Southern Illinois, all of them localities where pyramidal mounds are common. 3. The third accident, on which he dwells the longest, is as follows: The Shawnees, a tribe belonging to the Algonkin stock, are known to have been located at different times in their history in the very places where these pyramidal mounds are common and where the stone graves are also discovered. The argument is closely followed, but is not convincing. Our answer to it is as follows: 1. The Shawnees may have traversed this region, but they were never known to have been sun-worshippers and pyramid builders. The Algonkins, to which they belong, were totemistic in their religion, and were tomb-builders or mound-builders in the narrowest and most technical sense—that is, builders of stratified mounds—but were never pyramid-builders. We do not know that they ever reached any high grade of art or of nature worship. 2. It seems easier to account for the stone graves—which the Shawnees may have erected—on the ground of a borrowed cultus, and to ascribe the pyramid-building to an earlier people. The pyramids are on the territory which, at the time of De Soto, was occupied by the various tribes of the Muscogee

stock—Creeks, Choctaws, Chickasaws, etc. The relics found in the pyramids are such as are more becoming to a race of sun-worshippers, such as the Muscogees were, than to a race of animal-worshippers, such as the Algonkins were. 3. Many writers have recognized the resemblance between the relics of the Mexicans and Central Americans and these figures, which so surprise the explorers among the mounds, and it is better for us to acknowledge a contact between these distantly separated races than to force the argument. 4. He puts the Shawnees on a level with the so-called civilized races. The inconsistency of ascribing so high a grade of culture to the Shawnees at a date subsequent to the discovery is our greatest objection. Dr. Thomas thinks that the Shawnees built villages, whose remains were left near Fort Ancient; others think that the Shawnees were the people who occupied the region, at Madisonville, Ohio, where the ash-pits and ancient burial grounds are found. They are the people who were associated with the Delawares and were always as rude and as restless as any tribe of savages. To ascribe to them relics which resemble the works of art of the Mexicans is anomalous. 5. Is it not easier to say that some tribe of pyramid-builders wandered north, built the Cahokia mound and the mound at Beardstown, Ohio, in which stone graves were discovered, but who were entirely different from any tribe like the Shawnees? If one tribe wandered over the entire region embraced between the mouth of the Ohio and the Delaware River, and from South Carolina along the Tennessee and Cumberland, could not another tribe have passed from Cartersville or Etowah to the head waters of these rivers, and up the Illinois River, at a date preceding history, leaving their pyramids and stone graves to mark their track? Did the Shawnees leave stone graves on the Delaware? According to Mr C. C. Baldwin stone graves are found in Huron County, Ohio. Must we ascribe them to the Shawnees? If stone graves must be taken as evidence and everything is to follow, we shall have a task on our hands. 6. The accident of a figure with wings protruding from its shoulders found in the depth of a large pyramid mound, 375 feet in circumference and 15 feet high, situated in a group of pyramids in the midst of the pyramid-builders' territory, does not by any means prove the mound to be modern, nor does it prove that any modern tribe of wild, savage Indians either built the mound or made the figure.

7. We take the ornaments, the bands around the ankles and knees, wrists and arms, the bands and tassels and cords hanging from the head, the double-headed axe, surmounted by a feather, which is raised above the high helmet, and especially the masque or head in the hand of this plumed warrior, and say that no Shawnee could have devised such a figure. We would rather run the risk of acknowledging contact with Central America, or the introduction of that element of Christian art which consisted in wings issuing from the shoulders, generally supposed to be angel-wings, in pre-Columbian times, and yet we do not think the last necessary. It does seem as if Dr. Thomas was standing in his own light. He is anxious to trace the history of the modern tribes back to prehistoric times, and is to be commended for his effort in this direction, but when he makes so many of the pyramidal mounds and their relics to belong to historic Indians, we fail to follow him.

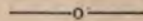
The fact is that the Mound-builders of the South were entirely different from those of the North. If we should identify them with any modern tribe, it would be with some one member of the Southern stock, certainly

not with a wandering tribe of Algonkians like the Shawnees. The degeneracy must have been very rapid, more rapid than we are willing to admit, if the Shawnees, whom we call a wild tribe, built such a mound or devised and left such a relic as Dr. Thomas describes in the "Story of a Mound." It is a *non sequitur*.

The Karankawa Indians; or, The Coast People of Texas. By Albert S. Gatschet. Archaeological and Ethnological Papers of the Peabody Museum, Harvard University. Vol. I, No. 2.

This pamphlet shows the value of co-operation, as the Peabody Museum is the publisher, and the Bureau of Ethnology the editor. Mrs. Alice W. Oliver, of Massachusetts, furnishes the information; Albert S. Gatschet writes the description; Charles A. Hammond and Prof. F. W. Putnam being the parties who have brought the matter to light.

The Indians described were certainly not of a very high grade. They seem to have been morose, tricky, thievish and quarrelsome, but their language is worth preserving their customs worth recalling. They may have been a retrograde tribe. Their custom was, when they smoked, to send the smoke through the nostrils; first to the north, then to the east, west and south; to stare at the sun when it disappeared into the sea. They signaled with smoke; some of the signals resembled spiral lines, some parallel lines, some lateral, twenty different ways, most remarkable, for their messages were understood. This tribe lived on the coast of Texas, near Matagorda Bay. Mrs. Oliver knew them when a child, as her father, Mr. Bridges, lived there at the time. The facts were recorded, the words were written down, and customs noted, but the manuscript was lost; fortunately Mr. Gatschet, by close questioning, secured enough information to fill 98 pages. Mrs. Oliver died soon after the information was given, but the record has been preserved and is now given the public. This same work ought to be done at the West, and these two institutions ought to work in the interior. Individuals are passing away whose knowledge of Indian tribes is valuable. We commend the co-operation, but we ask why not extend it. The Atlantic coast is not the only place where good results will follow from the friendly relations which should exist among those who are anxious to perpetuate the record which is so liable to perish, unless more effort is made to take it from the living representatives.



BOOKS RECEIVED.

- Throwing-Sticks in the National Museum.* By Otis T. Mason.
- A Collection of Stone Implements from the District of Columbia.* By S. V. Prouty, Smithsonian Institute. 1890.
- Basket Work of the Aboriginal North American.* By Otis T. Mason.
- A Teton Dakota Ghost Story, Ponca Stories, Etc., Etc.* By Rev. J. Owen Dorsey. From the Journal of American Folk Lore.
- The Iron Ores of Minnesota.* By N. H. Winchell, of Minneapolis.
- History of Geological Surveys of Minnesota.* By N. H. Winchell, of Minneapolis.





THE ANCIENT EARTH-WORKS AT MARIETTA, OHIO.

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TWO INDIAN DOCUMENTS.

EDITED BY ALBERT S. GATSCHET.

I. MIGRATION OF THE WICHITA INDIANS.

At a council of the Wichita people, held on the Washita River, May 19, 1885, Chief Niastor, of the Tawákoni Indians, made the following statements:

When the Wichita Indians lived on the Arkansas River other Indians crowded upon them from the north and east, and, after a fight, drove them southward. The chief of the Wichitas at that time was Todekitsádie. He said that for times immemorial his people had lived in the same country, and was driven from it only through the onset of the Indians above mentioned. In a council it was decided to send a party of explorers to look out for a new tract to settle upon. The selected party went southwest, and when it struck the Wichita mountains the surrounding country pleased them so that they decided to report in favor of going there. After their return a council was called, and the party of explorers pleaded for emigration to that portion of land. The removal was decided upon, and as horses were then unknown, the whole people, which was then very numerous, had to walk the distance on foot. Arriving from their villages upon the Arkansas River at the banks of the North Canadian River, they followed it up stream and arrived at the bend of the river, at the Red Sand Hills. There they stopped, built lodges and sowed their corn. From this location a part of the Wichitas were called Tawákoni, for this Wichita word signifies "river bend among red or sand hills". Having lived there several years they felt a desire to remove, and led by Todekitsádie they started for the Wichita mountains, supposing that the soil there was better adapted for raising Indian corn. After the Wichitas had

settled there Todekitsádie died. Niastor also made the additional statement, obtained from his mother, that after leaving the Red Sand Hills on the Canadian River they did not travel directly to the Wichita mountains, but remained a few years north of the (False) Washita River, set up farms near the mouth of Sugar Creek (north of Anadarko), and were forced from there only through a general inundation, which flooded all the lands around the Washita, of which Sugar Creek is a tributary, joining it from the north near the agency buildings. They then fled to the Wichita mountains, and this occurred in the time of Niastor's grandfather. Niastor was born there in 1837, near Mount Scott, and his mother was also born in the Wichita mountains, but the earlier emigration of the people from the Arkansas River took place at the time of his great-grandfather. The tract where their villages then stood was in the neighborhood of Wichita City, Sedgwick County, Southern Kansas, and flint-heads, with pottery, are now found at their former settlements. To this abstract of the tradition I add the deposition made by Niastor in its original terms, since many points are made more clear by it. I have received this document through the kindness of Mr. H. Kuhn, clerk of the Comanche, Kiowa and Wichita Agency, under date of August 23, 1885.

At a council of the Wichitas, May 19, 1885, Niastor, chief of the Tawákonie, said: "My mother told me that her father said she was born on the Arkansas River, below where the town of Wichita now is, and where there were holes in the ground in which could be found flint heads for arrows and also pottery, near where the Osage country now is. My great-grandfather told my mother that when the Wichitas lived on the Arkansas River the Indians from the north and east crowded and fought them, and drove them this way; that at that time To-de-kits-á-die (meaning "Boy chief") was the chief of the Wichitas. He told my mother that our people had always lived there, but after the Indians fought them our people held a council and concluded to move away from there. Some of our people were selected to go and look out for a country. The party selected went south-west until they saw the mountains now called Wichita mountains, and liked the country very much. They returned to the village and then our chief men called a council and heard what the returned party said about the land they had seen, that it pleased them, and that they wanted all of our people to go there. At that time there were a great many Wichitas, and our people had never seen any horses (there were none in the country), and when our people left their villages on the Arkansas River to go south, they all had to walk. When they arrived at the North Canadian, they traveled up that river till they came to the Red Sand Hills in the bend of the river, where they made villages and raised corn. It was there that some of our people were first

called "To-wá-co-nies," because they lived in sand hills in the bend of the river. To-wá-co-nie is a Wichita Indian word meaning "bend in the river among red hills or sand hill". Our people, after living there some years raising corn, got tired, and the "Boy chief" (To-de-kits-á-die) told them that they would all go to the Wichita mountains, which was a better country for raising corn. To-de-kits-á-die died after our people had settled in the Wichita mountains."

"I forgot to tell you that my mother told me when the Wichitas moved from the Red Hills on the Canadian River, they remained for some years north of the Washita River, and made farms near the mouth of Sugar Creek, and while they lived on the Washita there was a big freshet which covered all the bottoms and flooded the whole country, after which our people moved to the Wichita mountains. This was during the life-time of my grandfather, and my mother was born in the Wichita mountains. I am now forty-eight years old, and was born near Mount Scott. My mother was very old when she died, thirteen years ago. She was much older than Es-quit-cho is now."

"The Wichitas a long time ago were called Pawnee Picques, but our people did not call themselves by that name, and I do not know why we were called by that name."

NI-AS-TOR, *his X mark.*

Witness:

Chief of the Towaconie."

(Signed) E. B. TOWNSEND.

For a better understanding of the relations among the Páni tribes in the Indian Territory, it will be well to consider that the name Wichita represents a tribe as well as a *clan* of that tribe. The Wichita tribe had the following seven clans, as ascertained by Rev. Owen J. Dorsey, in 1881, from a Tawákoni man called Na-áshtuwi, who is probably identical with our Niastor:

1. Witchitá. 2. Towakarehu. 3. Wé-eko (Wēko, Waco, Hueco).
4. Akwetch. 5. Sidáhetch. 6. Kishkat. 7. Kiri-eshkitsu.

Here the difficulty is to find out whether these names represent originally different tribes who became the allies of the Wichita, or totemic gentes, into which the main stock of the Wichita had gradually diverged. The language of the Towákarehu or Towákoni is about identical with that of the Wichita, but that of the Wēko shows more disparity.

The name by which the Wichita originally called themselves was Tawáyash, Tawaihash; also spelled Towiache, Towache, Toayas, Toweeash. Their present appellation, Wichita, which they apply to themselves, is thought to be of Osage origin, and to mean "migrating," "removing".

The other name as mentioned by Niastor is French and should read Pawnees piqués (not Picques), that is, the tattooed Pawnees. Another appellation—Pawnee Picts—smacks of book-learning,

for it is taken from the Scotch tribe of the Picti or "tattooed," so called by a Latin term at the time of the Romans. The third name mentioned by Niastor as applied to the Wichita Indians, Kitikades or "Painted Eyelids," as he renders it, is the name given to them by the Pawnees proper, and is pronounced Kiri-kurús or Kidikurús.

James H. Deer, a Caddo interpreter consulted by me in 1886 during his presence in Washington, D. C., agreed with the statement given above, that Wichita was an Osage term signifying "moving about," and as to the name of Tawákoni he heard from the Wichita that it belonged to their language and signified "sand hill bend". The Wacos, another cognate tribe, now count only seventy people, and their name means "migrating" in Wichita, by which, he said, their travels or raids into Mexico are referred to. The Red Sand Hills above mentioned are now known as the *Red Hills*, and lie on the banks of the North Canadian within the Cheyenne and Arapahoe Reservation, ten miles above Darlington, Indian Territory.

The remnants of all these tribes have been gathered for the last twenty years or more in the Indian Territory, north of the Washita River, and in 1889 showed the following population: Wichita Indians 176, Tawákoni 145, Waco 64, Kichai 63, Caddo 539; total 987.

II. REMOVAL OF THE TAENSA INDIANS.

M. D'ABBADIE À LA NLE ORLÉANS LE 10 AVRIL 1764.*

"Le village des Taensas des environs de la Mobile, qui devoit passer dans la Rivière rouge avec les Apalaches et celui des Pakanas des Alibamons sont venus me trouver. Et m'ont demandé d'aller s'établir sur la Rive droite du fleuve à la Fourche des Chetimachas distante de 30 lieues environ de la Nouvelle Orléans. Je n'ai pu leur refuser cette grâce et je me suis prêté d'autant plus volontiers à leurs établissement dans cette partie que J'y vois des avantages sensibles pour la colonie. Ces deux villages sont Composés de pres de 200 personnes les Taensas sont Chasseurs et Cultivateurs et seront d'une bonne ressource à la Nouvelle Orléans.—Les Pakanas Alibamous nous procureront bien la même ressource, mais un avantage plus réel ce serait de les opposer aux Tchaktas si ceux ci vonlaient tenter quelques incursions sur nos possessions. Ils en sont naturellement ennemis et les Tchaktas les craignent."

Upon inquiries made by me about the documentary evidence concerning the ultimate fate of the Taensa people after leaving

*From a package marked "Correspondance generale, Louisiane," Volume XIV Preserved in the archives of the Ministry of the Marine, Paris.

the hospitable shores of Mobile Bay and Alabama River, I received from Mr. Pierre Margry, who is editing the colonial documents concerning French North America preserved at the "Ministère de la Marine," the above piece, with its defective punctuation, the contents of which he will probably embody in the next volume of his "Découvertes et Établissements des Français," in course of publication in Paris since 1880. The translation is as follows:

"MR. D'ABBADIE AT NEW ORLEANS; APRIL 10, 1764.

"The village of the Taensas in the vicinity of Mobile, the inmates of which had to pass over to the Red River with the Apalaches and the Pakanas-Alibamons, have called upon me to ask permission for settling upon the right-hand bank of the (Mississippi) river at the Shetimasha fork, which is distant from New Orleans about thirty leagues. I could not refuse to accede to their demand, and have countenanced their project to settle at that spot, so much more willingly as I consider it of advantage to the colony. The two villages comprehend nearly 200 persons. The Taensas are hunters and tillers of the soil, and will be of great support to the City of New Orleans; whereas the Pakanas-Alibamons will furnish the same help to us, though a more real advantage to us would be to oppose them to the Chactas, should they attempt to make forays on our possessions. They are their natural enemies, and the Chactaws are afraid of them."

In the March number, 1885, of THE AMERICAN ANTIQUARIAN Dr. D. G. Brinton has revoked in doubt the authenticity of the Taensa "Grammar" and "Popular Songs," published three years before by Messrs. Maisonneuve & Co., Paris. To arrive at this end he asserts that the Taensa people, after leaving their old home between Vicksburg and Natchez, on the west side of the Mississippi River, they remained for ten or twelve years upon a temporary cession of land,* and a while after this disappeared entirely, so that in 1740, or thereabouts, certainly not one Taensa remained in existence. All this is based on an entire misconception of the historic facts. The Northern Taensas, after having fled down the Mississippi River from the fury of the Chicasa Indians, were by the French authorities finally settled on the western site of Mobile Bay, below Fort St. Louis, and thirty miles above Fort Condé (now the site of Mobile City, Alabama). This same people was now called the Southern Taensa; it continued to exist long after 1740, for by the *present document of 1764* it is proved that its population, joined to that of the Pakanas, was two hundred souls. In Louisiana, they reappear in 1805 upon the Red River, and in Rev. Schermerhorn's Report of 1812 in

*They lived from 1706 to 1714 upon the Demeuve farm, on the Mississippi River, where the French commander had placed them.

the same tract. Since the arguments of Dr. Brinton against the authenticity of the Taensa language and especially against the songs of 1827 are largely based upon the alleged early *disappearance* of the whole tribe, we may gather from this how shaky the whole of his "discovery" really is, although he is still harping on it, whenever any opportunity presents itself.

After peace had been concluded between France and Great Britain and the French lands had been ceded to the English, the tribes dwelling south of the Ohio River held a meeting at Mobile, in the spring of 1764, to decide upon the new course to be pursued against the now all-absorbing power. The following tribes resolved to expatriate themselves rather than to abandon their old friends, the French colonists, and followed them to the west of the Mississippi River: the six lower towns of the Chacta, the Taensas, Biloxis, Pascagoulas and a portion of the Alibamus.

Very little is known in history about the Pakanas, who figure here as a part of the Alibamus. Their name is Chacta, and they are perhaps identical with the Nanipakna, once at the mouth of the Alabama River. Their name signifies the "upper ones," or "those above". During the nineteenth century Pakanas are mentioned in Louisiana, west of Middle Sabine River.

The spot on the Mississippi River where the two tribes wished to settle, is the point near Donaidsonville, where the great river sends a portion of its waters to the gulf by the Bayou Lafourche. It is a place of importance in Indian and colonial history, and the eastern part of the Shetimasha people formerly held this bayou in its entire length.

THE MYSTERIOUS RACES.

BY STEPHEN D. PEET.

America is called the New World, and so it is, for it is newly discovered. Our claim, however, is that America is also an old world, and compares well with other countries in this respect. We invite our readers into the field of American antiquities and would call attention to the prehistoric tokens and remains which are so numerous. We are well assured that there are many things which will interest them, and that much may be learned from the study of American archæology.

History is but recent, but we open the door from the historic to the prehistoric, and at once perceive the ancient. The vista of a long past opens before us. It stretches beyond our vision, and we are surprised at its magnitude and variety. There is, indeed, an air of obscurity covering a portion of it and deep mystery enshrouding it; but this is the case in all lands. We may not hope to extend the period of our history beyond the Discovery, but we may find a prehistoric era which will be well worthy of study. It is remarkable that the study of the monuments in the east has the effect to extend history farther back into the remote past and to bring up the prehistoric and shorten the traditionary. In America the effect is to lengthen the prehistoric and to make the traditionary more real.

To illustrate: Egypt has a history which extends far back into the remote past, but what occurred before history is unknown. The same may be said of Chaldea, Babylonia, Assyria and India. The history of these countries is carried back constantly by new discoveries; nevertheless, deeper obscurity has come upon prehistoric times. It was the ambition of these eastern races to be considered very ancient, but the fabulous dates have been disproved, and yet the mystery still remains. China is supposed to have had a history which reached back hundreds of thousands of years. Such extreme antiquity is denied to China, but her earliest history is acknowledged to be uncertain and obscure. Greece has had a more modern beginning, but even in Greece history was preceded by mythology, and that mythology is dim and shadowy. The early history of Rome is perhaps better known, but a mysterious people is supposed to have occupied Italy before the Latins migrated from the east. In Scandinavia we find the story of the Sea kings. These figure conspicuously as the earliest heroes, but other people dwelt there long before

the Sea kings. In Great Britain there were also mysterious races. We go back of the Norman conquest to find the Celts and Saxons, and go back of the Celts and Saxons to find the Britons and the Basques, who were comparatively modern. We read the story of King Arthur and his Round Table and the tales of the Druids as marking the earliest period of history, but we find the prehistoric people of Great Britain preceding all. The same may be said of the continent of Europe. We go back to the days of Minnesingers and to the earliest tradi-

tionary periods, but long before these there were races in Europe. In America also there were mysterious races. Here the one great event of history was the landing of Columbus. It is, however, a very modern event. The prehistoric period in America was much more ancient and prolonged than the historic, and yet there is great obscurity over the entire period.

We have set before us the subject of this chapter, "The Mysterious Races," especially those found in America. We are to take the monuments and the relics as an evidence that such races have existed, but we are to study these as our special source of information. We call them the prehistoric races, and yet may treat them as though they were historic.

I. We are to begin with the paleolithic age. It is now acknowledged that there was a paleolithic age in America as well as



Fig. 1.—Paleolithic Relic, St. Acheul Type.

in Europe. It is perhaps due to the investigations of Dr. C. C. Abbott that the first discovery of the paleolithic age in America was made. This consisted in the finding of many rude relics in the gravel beds near Trenton, New Jersey—relics which strongly resemble the paleolithics of Europe. It was followed, however, by the discovery of quartz implements in the vicinity of River Falls, Minnesota, by Miss Francis E. Babbit. Figs. 3 and 4.*

*The cuts show the location of the gravel beds at Trenton and River Falls. They also illustrate the relation of these beds to the ancient rivers and to the loop in the moraines. Other relics have been discovered at Medora, Indiana, and at Loveland, Ohio, and at Newcomerstown, Ohio. These were also at the edge of the same great ice sheet.

The terminal moraine of the "great glacial sea" stretches across the continent, leaving the marks of the progress and decline of the ice age throughout the northern borders. Scattered along this terminal moraine at various points these relics have been discovered which show that man existed even in the "ice age". They are not found at very great depths nor are they associated with remains which indicate very great age; but so far as they go, they help us to understand the mystery of man's beginning. The condition of man was primitive, scarcely more than a savage who gained his subsistence by fishing and who dwelt upon the edge of the ice sheet and fabricated rude relics. If more of the extinct animals had been found associated with his remains or fragments of the food upon which he had subsisted had been discovered, we should know something of his condition. All that we can say about this mysterious race is that they used rude stone weapons and that they belonged to the paleolithic age.

The date of man's first appearance is now unknown. Some carry back the paleolithic age through the entire preglacial period, making the two contemporaneous; while others introduce it at the close of the glacial period, making the age of man in America about ten thousand years. The prevalence of man at the close of the period is certainly to be acknowledged. The paleolithic relics are wide-spread, and show that paleolithic man



Fig. 2.—Paleolithic Relic from the Delaware.

was present in many places. We call attention to the cuts (Figs. 1 and 2) here, which illustrate the paleolithic relics which are found in Europe and America. The specimen represented as European was described by Dr. Thomas Wilson in *THE AMERICAN ANTIQUARIAN* and is called by him the Chellean or St. Acheul type.* The American specimen was described in the same journal by Dr. C. C. Abbott and is said to be a good representative of

*See *American Antiquarian*, Vol. X, p. 6; Vol. VII, p. 308; Vol. VIII, p. 44. Also *Popular Science Monthly* for July, 1891.

the argillite of the Delaware. Dr. Abbot speaks of others in the shape of rude axes, some of which exhibit an imperfect groove, as if intended for a handle, near the middle. See Plate.



Fig. 3.—Place of the First "Find."

It will be noticed that there is a striking resemblance between the relics found in America and those found in Europe. The shape is that of a pear. The European specimens generally contain a gloss upon them, which is called the patina, and frequently have dendrites upon the surface, which are sure signs of age. The American specimens very rarely have the patina or the dendrites. Prof. Wright, however, says that the relic discovered by Mr. W. C. Mills, in 1889, at New-comerstown, fifteen feet below the surface, has the patina characteristic of the genuine flint implements of great age in the valley of the Somme."

2. This leads us to the consideration of the auriferous gravels and lava beds. The discovery of a fragment of a human skull associated with the bones of the mastodon in the auriferous gravels of Table Mountain, at the depth of 180 feet, in 1857, was an event which excited interest among all the learned societies in America and Europe. A few years later, in 1866, Prof. J. D. Whitney announced the discovery of a skull, nearly complete, at a depth of about 130 feet. This was in Calaveras County, on the western slope of the Sierra Nevada. The deposit rested on a bed of lava, and was covered with several layers of volcanic deposits. The skull was imbedded in consolidated gravel, in which were several other fragments of human bones and remains of some small animals and the shell of a land snail. Much discussion followed this discovery. Many were inclined to doubt its genuineness. Some maintained that the miners had perpetrated a trick, as the skull was taken from the shaft of one of the ancient mines. Profes-



Fig. 3.—Place of the Second "Find."

sor Whitney, however, published a letter, in which he maintained the genuineness of the find, and claimed for the skull extreme antiquity. His words are: "I feel no hesitation in saying that

we have unequivocal proofs of the existence of man on the Pacific Coast prior to the glacial periods, prior to the existence of the mastodon and the elephant, and at a time when animal and vegetable life were entirely different from what they are now, and since which a vertical erosion of from two thousand to three thousand feet of hard rock strata has taken place." He published a monograph on auriferous gravels, in which he described the various localities where steatite pots and ollas and mortars had been found, some of them at the depth of fifty feet. Major J. W. Powell has shown that these were just such mortars as are found on the surface and so should be classed with neolithic relics of an advanced type. Fig. 5. It should be said also of the Calaveras skull itself that it gives contradictory evidence. While in some respects it resembles the Eskimo type, it is far from being such a skull as one would expect to find in the gravel beds. Judging from its position we should consider this perhaps the most ancient relic which has been discovered, and might conclude that it proved that man existed in the tertiary period, but an examination of the skull would lead to the opposite conclusion. The Neanderthal skull stands in the world of science as the representative of the most ancient of the human race. The Calaveras skull is in strong contrast with the Neanderthal. It was found at a greater depth and should be the older, but it was superior and so would be classed as the younger.

Dr. Thomas Wilson sums up the characteristics of paleolithic man as far as known. "He was short of stature and strong of limb. His head was long in proportion to its breadth, his under jaw was square and heavy, and his chin sloped backward, and he had a retreating forehead. His skull was small in front and large behind." No such characteristics can be recognized in the ancient American. It is a theory with some that the paleolithic man of Europe migrated through Northern Asia and survives in the Eskimo of the present. This is indeed possible. This paleolithic man might, in the very early ages, have passed over the bridge formed by the Aleutian Islands. He may have migrated southward, keeping on the edge of the "ice sheet." He may afterward, after the ice sheet retired, moved northward,



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Fig. 5.—Pestle and Mortar.

leaving a few stray specimens buried in the gravel-beds, but the ollas and the mortars are still unaccounted for.

In reference to the relics found in these gravels, Prof. F. G. Wright says: "I was so fortunate as to run upon evidence of a previously unreported instance of the discovery of a stone mortar under Table Mountain. This mortar was found in 1887, 100 feet below the surface and 175 feet in a horizontal line from the edge of the basalt; made from a small boulder. It is six and a half inches through the hollow, being about three and a half inches in diameter and three inches deep. Another mortar was discovered in 1879, and was reported in 1891 as coming from undisturbed gravel, and a pestle was presented by Mr. J. F. Becker to the Geological Society with the assurance that Mr.

Clarence King took it with his own hands, twenty years before, from the gravel under Table Mountain."*



Figs. 6-7.—Nampa Image.

The Nampa Image has excited much attention. It has been described by Prof. Wright.† It was discovered at Boise City, Idaho Territory, in an artesian well at a depth of 320 feet and 200 feet below the lava rock, in a layer of coarse sand, and immediately above a vegetable soil. The deposits may have been caused by some ancient obstruction of the Snake River, or by some sudden flood caused by the melting of the glaciers of Yellowstone Park. The image, according to one account by Professor Wright, was made of clay—the same kind of clay which came out in balls from the well. According to another it was carved out of rather fine pumice stone, though in his last report it was made of slightly baked clay, encrusted with a coating of red oxide of iron. It was an inch and a half long. It came up in the sand pump through the heavy iron tubing, six inches in diameter.‡ See Figs. 6 and 7. "The high degree of art displayed is noteworthy and the proportions are perfect, and there is a pose of the body that is remarkable. These differentiate it from anything that has been found among the relics of the Mound-builders."

Another discovery was the so-called "fossil foot-prints." It was made by Dr. Earl Flint, of Nicaragua. The "foot-prints" were found in the solid tufa in the neighborhood of Lake Managua. He found also in the same vicinity a cave which contained "rock inscriptions," some of them in the shape of sun symbols. His theory was that the foot-prints and inscriptions

*See Popular Science Monthly, July, 1891, p. 319.

†See AMERICAN ANTIQUARIAN, Vol. XI., No 6. The cuts are from *The New York Independent*.

‡See proceedings of Boston Natural History Society, January, 1890, Popular Science Monthly, July, 1891.

THE MYSTERIOUS RACES.

were made at a very ancient date, and that man existed as early as the eocene or miocene. Imprints were sent to Prof. Baird, to Dr. D. G. Brinton and to Prof. F. W. Putnam and with them specimens of the shells which were found with the "foot-prints." See Plate I. This discovery caused considerable discussion, but Dr. Brinton and others took the ground that the "tufa" in which the foot-prints were imbedded may have been the result of an eruption, comparatively recent, and that the shells and other associated tokens do not show great age. The claim that the Cave-dwellers were capable of marking complicated sun symbols upon the rocks, and of protecting their feet with sandals as they walked over the tufas, is not in keeping with the idea of great antiquity. Certainly man who was associated with extinct animals was not likely to have attained to any such advanced state.

II. We turn next to the Cave-dwellers. It is due to the naturalist Lund that the discovery of Cave-dwellers in America was made. In a cave excavated in the limestone on the borders of a lake in the province of Minas Geraes, Brazil, he dug out the bones of more than thirty individuals. Mixed up promiscuously with the human remains were found those of several animals still extant in the same region. Pursuing his researches, he explored more than a thousand caves, but in only six of them did he find human bones associated with extinct animals. He succeeded in gathering complete specimens of forty-four species now extinct, including a rodent of the size of the tapir, a peccary twice as large as the living species; a megatherium, large cat, bigger than a jaguar; a smilodon, a large animal akin to the saber toothed tiger; an edentate of the size of the tapir; and also a species of the horse, similar to our own; a llama and several monkeys. Lund claims the presence of man on the American continent from very remote antiquity, that his appearance dated in South America not only earlier than any prehistoric period, but even earlier in the prehistoric period than is claimed for man in Europe, as several species of animals have disappeared from the fauna since his advent. Another explorer, Ameghino, also tells us that on the banks of the little stream of Frias, twenty leagues from Buenos Ayres, he met with human fossils mixed with charcoal, pottery, burnt and scratched bones, arrow



Fig. 8.—Relic from Cave.

heads, chisels, stone knives, together with a number of bones of extinct animals on which were marks of chopping, evidently done by the hand of man. Ameghino's discoveries led to long discussions. Burmeister rejected the theory of the contemporaneity of man and mammals whose bones were found together, the Argentine Scientific Society even refusing to listen to a memoir upon this subject.

A discussion has arisen about the caves and the geological time which we must assign to the upper stratum where the human bones were found. Darwin considers it recent, Burmeister assigns it to the quaternary, while Lund thinks they are alluvial deposits. The discoveries in North America are no less



Figs. 9 and 10.—Paleolithic Retics from Caves in France.

curious, though we accept them with a little more confidence.* See Figs. 8, 9, and 10.† Here the Cave-dwellers, so far as they have been discovered have proved to be comparatively modern. There are no examples in which the Cave-dwellers and extinct animals were associated. A great contrast exists between caves in North America and those in Europe. We call attention to the cut (Plate II) which represents a cave at Gailenreuth, in Bavaria. It shows how the bones of man were deposited by the floods which filled the caves at intervals and how the stalagmites gradually accumulated and covered over the layers of bones with a rocky crust. In contrast with this are the shelter caves which were occupied by the Cliff-dwellers. In them were the houses of the people, and all the conveniences for permanent abode. The cuts show that American Cave-dwellers were neolithic, not paleolithic. Fig. 11.

Caves have been discovered on the northwest coast, in California, associated with kitchen middens. Shelter caves have been discovered near the Atlantic coast. One of them, near Chickies, Pa., has been described by S. S. Haldeman. It is said

*See Nadailac's *Prehistoric American*, page 23. Nott & Gliddon, page 350. *Archives de Museo Nacional, Rio de Janeiro*, 1876.

†We give a few cuts of the retics taken from the caves in France. These are described by Dr. Thomas Wilson and classed with the Mousterien epoch, which he regards as contemporary with the glacial period. Another relic illustrates the Madeleine epoch. This epoch was marked by the presence of the reindeer, figures of the reindeer, mammoth and cave-bear having been found engraved on tusk's, deer's horns and flat stones. These were found in shelter caves.

to have contained many rude stone relics as well as human remains. Shelter caves have been described by C. C. Baldwin and M. C. Read, as found at Elyria and Newbury, Ohio. These contain many bone relics, such as awls, needles, chisels and various other rude articles. They resemble the tools used by the aborigines and can hardly be ascribed to an ancient race. They illustrate, however, one point—that the condition of the Cave-dwellers and early hunters has been perpetuated among the hunters and savages of this continent. The absence of the bones of extinct animals as well as the character of the relics would prove that they were comparatively modern. Col. Charles Whittlesey held that there were three races in Ohio, the first being the Mound-builders, the second being the Cave-dwellers, the third being the Indians; but Prof. Read held that there was a race preceding the Mound-builders, a race whose skulls were very thick and of a low type. Prof. F. W. Putnam draws a distinction between early Mound-builders and late Indians, assigning to the latter the long, narrow skulls so common, but to the former the round skulls, and considers that these were of Southern origin.

A shelter cave was discovered near San Jose, in California, by Dr. Stephen Bowers. It contained a number of baskets, in which were bundles of painted sticks, covered with peculiar signs, probably the outfit of a modern "medicine man." Caves have also been found in Utah, but as the remains of man were



Fig. 11.—Caves Occupied by Neolithic Cliff-Dwellers.

associated with ears of corn and other relics, we conclude that they were extremely modern. There were Cave-dwellers in the Mound-builders' territory. Prof. Putnam has described several in Tennessee. There were mummies in one of these caves, dessicated bodies of natives which had been deposited, but which the salt had preserved, making them to resemble mummies. Some of these bodies were covered with feather head-dresses and feathered robes and other equipments, resembling those used by later races.

The cave described by Rev. Edward Brown as found in West Salem, Wisconsin, is also to be mentioned here. There were rude picture writings on this cave—pictures of animals and of hunters shooting the animals. Mr. T. H. Lewis has described several caves situated in Minnesota and Iowa. There were in these caves various inscriptions which resemble totems of the modern tribes, though it is not known by what tribe they were recorded. A cave has been found near the great Cahokia Mound, and near the cave was formerly the remarkable rock inscription which was discovered by Marquette and which has given rise to the tradition about the fabulous animal called Piassa. There is a mystery about the Cave-dwellers of America. We go over the entire period which elapsed between the time of the gravel-beds and the "ice age" and the presence of the modern Indian hunters, and find that the cave-dwelling is scattered at intervals along the whole period.

IV. The Kitchen Middens and Shell Heaps.—These are very numerous, and form an interesting subject. They show the progress of human society, and form another link in the chain. Shell heaps are found on the Atlantic coast, scattered at intervals from Maine to Florida. These have been described by Prof. Putnam, Prof. Wyman, Dr. Brinton, Dr. Rau and others. Kitchen middens are common on the Pacific coast. They extend from Alaska through Oregon to California. The kitchen middens or shell heaps of the northwest coast are most interesting. These have been described by William H. Dall. His statement is that there were three stages of occupation in this region—one marked by the deposits of a so-called "littoral" people, who fed upon shell-fish and were unacquainted with the use of fire; the second was marked by the "shell heaps" left by a race of early fishermen; a third was the period of the Cave-dwellers. He ascribes these caves to hunters, and says that they were used as temporary camps rather than as dwellings. The relics of the three periods—the littoral, the fishing and hunting—show a very considerable progress. They were associated with lower, middle and upper mammalian layers, and so indicate successive periods of time. Shell heaps have been discovered containing "hut rings" deeply imbedded in the layers, showing the coast was occupied through long periods. Those in Oregon and in California have

been described by Mr. Paul Schumacher. He speaks of them as divided into temporary camps and regular settlements, the relics in the "heaps" varying according to the locality. In Southern California "tons of flint chips are found scattered about in all directions; knives, arrow-heads and spear-heads in large numbers. There were graves in some of these, and painted slabs placed over the graves. Cups, ornaments, shell-beads and cooking utensils were also found. Sandstone mortars of large size, with pestles, an assortment of cups of serpentine, spear-heads of obsidian, lance-points of chalcedony, a bronze cup filled with red paint, corroded iron knives, the relics all showing great variety and indicating successive periods of time, the last period being as late as the time of the Spanish occupation."

There are shell heaps also in the interior. These contain fresh water shells and illustrate the fact that the natives everywhere gained their subsistence from the waters. We may take the evidence that fishermen, hunters, agricultural people and villagers dwelt in various localities about the continent. The theory of the gradual progress of mankind is demonstrated here as in Europe. The American races stretched from the Arctic Circle to Terra del Fuego, but a great variety is exhibited by them. It is a question whether we can ascribe to them aboriginal unity or say that they were all indigenous.

V. We now come to the period of the mammoth and the mastodon. There is a mystery about this period. There is no doubt that these animals once existed on this continent and that they may have been contemporaneous with man. It is not improbable that the Mound-builders were acquainted with the mammoth. In the "bottom land" of the Bourbouse River, Gasconade County, Missouri, Dr. Koch discovered the remains of a mastodon. The animal had sunk in the mud of the marshes, borne down by its own weight, and being unable to regain its footing, had fallen on its right side. Here it was attacked by aborigines, who threw at it arrows, stones and pieces of rock, and succeeded in lighting fires around it, to which the heaps of cinders, some of them six feet high, still bore witness. Some of the rocks weighed no less than twenty-five pounds and had been brought from a great distance. The following year he made a similar discovery in Brinton County, Missouri. Here, under the thigh bone of a mastodon, he found an arrow of pink quartz, and a little farther off he found four other arrows, all of which had been shot at the mastodon. Unfortunately Koch's want of scientific knowledge and the exaggerations with which he accompanied his story at first, threw some discredit upon the facts themselves, but the recent discoveries of Dr. Hughey in Iowa and Nebraska, and by the author in Ohio, have now confirmed them. In all of these localities the bones of the mastodon were mixed with ashes, traces of fire and arrow-heads and stone

weapons were in close proximity. The animals in all cases seem to have been mired in the peat beds and attacked by the men who lived in prehistoric times. In the Davenport Academy there are two pipes made in imitation of the elephant or mastodon. One of these pipes is said to have been taken out from the depths of a mound in Louisa County, Iowa. A German clergyman, Rev. A. Blumer, having first discovered it, handed it to Rev. J. E. Gass, his companion in exploration. It is unreasonable to doubt the genuineness of this find, even if the



Fig. 12.—Paleolithic Axe.

remarkable discoveries which were made by the latter gentleman have been discredited. A second elephant pipe (Fig. 13), which had been discovered in a corn-field by a German farmer by the name of Myers, afterwards came into the hands of Mr. Gass. Three celebrated tablets were discovered by Mr. Gass in the mound on the Cook farm, near Davenport. On one of these tablets is a hunting scene containing thirty figures of animals and men, the animals being deer, bear, wolf and fish, and one of them resembling an elephant. The tablets have not been regarded as genuine. One of them contains a cremation scene, though the mounds of the locality give no trace of cremation having been practiced.

We shall speak next of the salt mines, cypress rafts, peat swamps and other places where mastodons have been discovered. These have been dwelt upon as proving extreme antiquity, but they are classed together here, as marking one period of time. During the late rebellion a salt mine was worked on Petite Ansie Island. A fragment of matting was found on the salt fifteen feet below the surface of the soil. Two feet below were the remains of tusks and bones of a fossil elephant. The matting was made of the common southern cane, but had been preserved by the

salt. Indescribable quantities of pottery were thrown out, mingled with the remains of extinct quadrupeds. The animals seem to have been bogged and perished in the miry clay above the salt. This locality was examined by Prof. E. W. Hilgard and Dr. E. Fontaine. The latter maintains that the soil above them was quaternary, belonging to the bluff formation, overlying the orange sand. Prof. Hilgard says that the deposit was washed down from the surrounding hills, but that mastodon bones were found above some of the human relics. Dr. Holmes in 1859 made communication to the Philadelphia Academy of Natural Science, in which he described the fragments of pottery found on the Ashley River, of South Carolina, in connection



Fig. 15.—Elephant Pipe.

with the bones of the mastodon and megatherium, both of them extinct animals. Mr. E. L. Berthoud claims to have discovered a complete suite of stone implements in tertiary gravel and coevil with it. This was on Crow Creek, Wyoming. He also claims that stone heaps and circles, flint tools and weapons, marking the site of a deserted ancient village, totally unlike modern Indian or Mound-builders' vestiges. The oldest evidences do not show traces of fire, but a rude barbarism of the first attempts of art lead us to compare them to the rude tools of Abbeyville in France and the implements of Kent in England. The human skeleton excavated at the depth of sixteen feet from beneath four successive layers of cypress trees in the delta of the Mississippi River, near New Orleans, has been often referred to. Dr. Dowler claimed three epochs for the delta; first, that of the grasses; second, that of the lagoon; third, that of a live oak platform; but Dr. J. W. Foster says what he regards as four buried forests may be nothing more than driftwood brought down in former times.

We speak of these uncertainties about the relics which contain the images of the elephant and mastodon because they

illustrate a point. There are no hard and fast lines between the earliest appearance of man and the different epochs of the prehistoric age. The mammoth and the mastodon came upon the stage long before the glacial period. Their sway is supposed to have been broken by the convulsions and changes which occurred at the close of that period. Specimens of them may, however, have survived even after prehistoric man appeared. The two ages overlapped each other. In the same way the historic and prehistoric ages seem to have been merged together, the records of the two being mingled the one with the other, the same as in Europe. There are images of the mastodon inscribed on the bones taken from the caves at Dordogne, showing that there man was contemporaneous with the mastodon. Immense carcasses of the same animal have also been found frozen into the mud in Siberia, and so excellently preserved that the dogs fed upon the flesh. Other carcasses have been seen floating in the waters of the Lena River, having been washed out from their long resting place by a flood. It is supposed that from the same region the animals whose bodies are found in the peat swamps of Missouri, Michigan, Ohio, New York, and as far south as North Carolina, formerly migrated, taking perhaps the same route which their hunters took afterward, when they came into this continent. The glacial period served to bury the majority of them. The swamps of the quaternary age furnished their graves. Uncertain dates are brought before us by these events. Man came late in this period. We can not fix upon the time when he first made his appearance.

VI. We take up next the subject of fire-beds. These mark the period immediately preceding that of the Mound-builders. They were first described by Col. Charles Whittlesey. Of one of these beds which he found, he says: At low water and up to a height of twelve and fifteen feet is a bed of sand and transported gravel, on this a layer of quicksand in which is a "timber bed." Over this "bed" is the usual yellow loamy clay of the valley, fifteen to thirty feet thick. Near the bottom of this river loam, I saw in 1838, two places where fire had been built on a circular collection of small stones. The stones were colored red by heat, and among them was charcoal covered by clay; this was opposite Portsmouth. The author, in company with Thomas Cleaney, in 1878, discovered similar fire-beds at a point opposite the mouth of Mill Creek, three miles below Cincinnati. This fire-bed was not so deep as the one described by Dr. Whittlesey. It contained ashes and the debris of camps and fragments of stone axes which seemed to have been broken by the action of fire. One of the pieces of a stone axe taken from the heap had the usual crease which is so easily recognized as characterizing the Mound-builder's axe. Another discovery of fire-beds or ancient hearths was made in the year 1890 near the "Turner Group," in southern Ohio. Five hearths were ex-

posed by the river cutting away its bank, one of which is said to be thirteen feet below the bottom land, resting upon a layer of gravel. Covering the hearth was a fine alluvial deposit three feet thick, over which was a layer of gravel seven inches thick, upon which rests ten feet of alluvial deposits. This was discovered by Mr. H. T. Cresson and Ernest Volk. Dr. Metz had, however, previously discovered ancient fire-places. On them he found fragments of pottery, ashes and charcoal. The hearths are made of small boulders and cover an area of several square feet. The stones are burnt and many of them splintered by heat. The hearths furnish evidence of the occupation of the "bottom lands" at different intervals during the formation of the deposit which fills the valley and indicates considerable antiquity, how long after the glacial moraine is unknown.

VII. We next come to the Mound-builders. It is well known that a people called Mound-builders once inhabited the interior of North America. Who this people were, whence they came, whither they went, are among the unsolved problems. An impenetrable mystery hangs over their history. All that we know of them is learned from their structures, works and relics. To these mute witnesses we must resort if we are to learn anything of the character of this people. The first inquiry is, Who were the Mound-builders? This question will probably be answered in different ways, but before answering it we shall refer to the points involved and leave it for our readers to draw their own conclusions.

We take up the works of the Mound-builders as the especial source of information. Let us first consider the name, however. The name "mound-builder" is a general one, indicating that there was once a people who were accustomed to build mounds. In this general sense there is much significance to the name, in that it suggests one characteristic or custom of the people. There is, however, a sense in which the word is used, which makes it very expressive, for it furnishes to us not only a picture of the mounds and earth-works, but also indicates much in reference to the people. We may say in this connection that there are several such words in the archæological vocabulary which have proved equally significant. To illustrate: We use the words "cave-dweller," "cliff-dweller," "lake-dweller," signifying by these terms not merely the fact that those people once lived in caves or cliffs or above lakes, but implying also that they had a mode of life, style of abode, stages of progress, which were peculiar and distinct. We infer from this, that the prehistoric age was divided into different epochs, and that each epoch was distinguished by a different class of structures. This interpretation may need to be modified, for there are certain indications that several representatives of the stone age may have been con-

temporaneous. Still, the modes of life, occupations and habitations were the result of location and of physical surroundings rather than of "age" or stages of progress. While the stone age may be recognized among the Mound-builders, yet a subdivision of that age into epochs may be a safeguard against premature conclusions and unsafe theories, keeping us from extreme opinions. Our readers are aware that the Mound-builders were once supposed to have been a remarkable people, and allied with the historic and civilized races, but that latterly the opinion has gone to the other extreme, the low grade and rude civilization of the wild hunter Indians being frequently ascribed to the entire people, no distinction or limitation being drawn between them. We maintain, however, that the Mound-builders' problem has not been fully solved, and that, therefore, it is premature to take any decided position as to the actual character and condition of this mysterious people. All that we can do is to set forth the points which we suppose have been established and leave other conclusions for the future.

1. The Mississippi Valley is the place where the works of the Mound-builders are most numerous. In a general way their habitat may be bounded by the great geographical features of this valley; the chain of great lakes to the north, the Allegheny mountains on the east, the Gulf of Mexico on the south, and the Great Desert on the west. Within these bounds, mainly, do we find the structures which have given name to this strange people; and we may describe them as the ancient inhabitants of the Mississippi Valley who built mounds. There are barrows or mounds in Europe and in Asia. There are mounds or earth-works in Honduras, Yucatan and Central America, as well as in Oregon and on the northwest coast, but the structures in this region are distinctive, and peculiar to the inhabitants who dwelt here. Nowhere else on the continent are they found in such great numbers. Nowhere else are they found so exclusively free from the presence of other structures. Nowhere else is such a variety of earthworks. To the eastward, along the coast of the Atlantic, there are earth-works, such as stockades, fortifications and village enclosures. To the westward, beyond the Rocky mountains, there are pueblos, rock fortresses and stone structures. To the northward, beyond the lakes, there are occasionally found walls and earth-works; but in the valley of the Mississippi those structures are discovered which may be regarded as distinctive. The peculiarities which distinguish these from others, aside from their being exclusively earthworks, are, first, their solidity; second, their massiveness, and, third, their peculiar forms. By these means the works of the Mound-builders are identified, and in their own territory, wherever a structure may have been erected by a later race, it may be known by the absence of these qualities. There are occasionally earth-works in the valley of the

Mississippi, especially through the northern part, bordering on the lakes, which were evidently built by the later Indians. Their resemblance, however, to the fortifications east of the Alleghanies, and the evident design for which they were erected, as defensive or village enclosures, the unfailing spring attending them, the absence of any religious significance, and their want of solidity and massiveness, help to distinguish them from the works of the Mound-builders.

We take the picture presented by this valley and find it strikingly adapted to the use of a class of people who were partially civilized. On either side are the high mountains, constituting barriers to their great domain. At the foot of the western mountains are the plateaus or table-lands, which have formed from time immemorial the feeding places for the great herds of buffaloes. In the northern portion of the valley, bordering upon the chain of the great lakes, are great forests abounding with wild animals of all kinds, which must have been the hunting-grounds of this obscure people. The center was traversed by the Appalachian range, which was the fit abode for a military class of people. Along the lines of the great streams were the many terraces, forming sites upon which the people could build their villages, and yet have access to the waters which flowed at their base. Many of these terraces were formed by the gravel beds left by the great glacial sea which once rested upon the northern portion of the valley. Below the terraces, and all along the borders of the rivers, were the rich alluvial bottom lands which so favored the cultivation of maize and yielded rich return to a slight amount of labor. Broad prairies interspersed with forests and groves, and traversed by numberless streams gave variety to the scene. It was a region built on a grand scale and was capable of supporting a numerous and industrious population. We may suppose that the Mound-builders, when they entered it, were influenced by their surroundings, and that they soon learned its resources. We can not look upon them as merely hunters or wild savages, but a people who were capable of filling this broad domain with a life peculiar to themselves, and yet were correlated to the scene in which they were placed.

Here, with a diversity of climate an abundance of products, the people led a varied life. They were to gain their subsistence from the great forests and from the wide prairies, and were to fill them with their activities. A river system which, for thousands of miles, drained the interior, furnished the channels for communication, and was evidently well understood by this people. A vast sedimentary basin, through which the rivers have worn deep channels, leaving table-lands, cut by a thousand ravines, and presenting bluffs, head-lands, high hills, narrow isthmuses, detached island-like cliffs, in some cases precipitous and difficult of access, furnished many places on which this peo-

ple could build their defenses, covering them with complicated works resembling the citadels of the Old World, beneath which they could place their villages and dwell in safety.

The number of these ancient villages is well calculated to excite surprise. Ten thousand burial mounds or tombs were found in the single State of Ohio, and also a thousand or fifteen hundred enclosures in the same state. Nor is their magnitude less a matter of surprise than their number. Twenty miles of embankment constitute one series of works. Walls sometimes thirty feet in height, and enclosing from fifty to four hundred acres, surround their fortifications. Pyramids one hundred feet in height, covering sixteen acres of ground, divided into wide terraces, three hundred feet long and fifty feet wide, vying with the pyramids of Egypt, formed the foundations for their great houses. Mounds formed their lookout stations, sixty and ninety feet in height. The variety of their works was great, and their distribution widespread. In one part of this wide domain there were game-drives, in which the animals hunted were erected in effigy. In another part were garden beds, covering hundreds of acres, and presenting many curious patterns; in another, large groups and lines of burial mounds; in another, many circles and fort-rings; in another, lodge circles and hut-rings; in another, village circles and dance-rings, interspersed with temple platforms; in another, extensive enclosures, with domiciliary platforms; in another, groups of pyramids, interspersed with fish ponds, surrounded by earth-walls. Everywhere was manifest a wonderful adaptation of the works to the soil and scenery and physical surroundings. Different grades of advancement were exhibited, but at the same time great activity and great skill in gaining subsistence. Every spot was well chosen and the works placed upon it were best adapted to the locality.

2. A distinction is to be noticed between races of the Mississippi Valley according to geographical lines, those north of the great lakes being generally identified with the later tribes of wild hunter Indians; those which adjoin the lakes, and which extend from New York State through Northern Ohio to Michigan, also being ascribed to a military people resembling the Iroquois; those on the Ohio to a class of villagers who were more advanced than any ordinary Indians, and those of the Southern States to a class of pyramid-builders, who were the most advanced of all. The distinction is, however, not only geographical, but chronological, for there are relics which are as strictly military among the villages or sacred enclosures as among those in the homes of the warlike Indians, and there are tokens in the midst of the pyramids which indicate that modern hunters have roamed among the agricultural works, and that sun-worshippers and animal-worshippers have traversed the same regions.

A simple earth-wall, running around the brow of some gentle declivity, or the top of some precipice, or on the edge of some isolated island, presents a very different aspect from those structures which are found oftentimes in the midst of large and fertile valleys, or upon many of the plats of ground where now stand some of the largest cities of modern days, and which, for massiveness and extent, surprise even those who behold them in the midst of the works of civilized man. These earth-walls, or so-called stockades, we maintain, were the works of the later Indians, and can be easily distinguished from the earlier Mound-builders by certain unmistakable evidences. The same may be said also of the relics and other tokens. They may be found in the Mound-builders' territory, but were, many of them, of a later date and of a ruder character, and should be ascribed to a different people and not be confined to one date or race, much less to the so-called modern Indians known to history.

In reference to this point we may say that the evidences are numerous that the people who built the mounds in the Mississippi Valley belonged to different races and occupied the country at different periods and may have come from different sources.

(1.) The traditions of the Indians prove that the lands have been inhabited by different races and at different periods. These traditions prevail not only among the northern Indians, such as the Delawares, the Iroquois and the Algonkins, but also among the southern tribes, such as the Cherokees, the Creeks, Choc-taws and Muskogeas, all of them indicating that there were later migrations and that other races were in the valley before these tribes reached it. The traditions of some of the Indians, especially those of the south, point back to a period when their ancestors began the process of mound-building; with others the traditions point to a time when they began to occupy the mounds which had been built by another and a preceding people. Nowhere, however, is it claimed that the Indians were the first people who occupied the country or that their ancestors were the first race who built mounds. The evidence is clear that among the various tribes some of them, in the course of their migrations, had been led to abandon their particular mode of building mounds and had adopted the mode of the people whose territory they invaded, and thus the same class of structures continued under the successive races; but the beginning of the mound-building period is always carried back indefinitely, and is generally ascribed to some preceding people.

(2.) The relics and remains prove also a succession of races. This is an important point. A discussion has arisen among archæologists as to who the Mound-builders were, and the idea has been conveyed by some that the Mound-builders were to be identified with this or that tribe which occupied the region at the opening of history. This, however, is misleading. It limits us

to a very modern period and serves to cut off investigation into the more remote ages of the mound-building period.

Our position is that many of the mounds contain a record of successive periods of occupation, some of the burial mounds having been built by several different and successive tribes, and the layers in the mounds being really the work of different tribes. The prehistoric record is plain. The skulls and skeletons found near the surface we may regard as the latest tokens, some of them being quite modern, and the rude relics found in the gravel beds being regarded as the earliest tokens; but the mound-building tokens extended through a long period of time. On these points we give the testimony of the various gentlemen who have explored these mounds. Prof. Putnam says: "In the great Ohio Valley we have found places of contact and mixture of two



Fig. 14.—Animal Effigies.

races and have made out much of interest, telling of conflict and defeat, of the conquered and the conquerors. The long, narrow-headed people from the north, who can be traced from the Pacific to the Atlantic, extending down both coasts, and extending their branches towards the interior, meeting the short-headed and southern race, here and there. Our explorations have brought to light considerable evidence to show that after the rivers cut their way through the glacial gravels and formed their present channels, leaving great alluvial plains upon their borders, a race of men, with short, broad heads, reached the valley from the southwest. Here they cultivated the land, raised crops of corn and vegetables, and became skilled artisans in stone and their native metals, in shell and terra-cotta, making weapons and ornaments and utensils of various kinds. Here were their places of worship. Here were their towns, often surrounded by earth embankments, their fixed places for burning their dead, their altars of clay, where cremation offerings, ornaments, by thousands were thrown upon the fire. Upon the hills near by were

their places of refuge or fortified towns. Preceding these were the people of the glacial gravels. The implements which had been lost by preglacial men have been found in the Miami Valley, as in the Delaware Valley. This would seem to give a minimum antiquity of man's existence in the Ohio Valley from eight to ten thousand years. From the time when man was the contemporary of the mastodon and mammoth to the settlement of the region by our own race, successive peoples have inhabited this valley."*

We now turn to the division of the Mound-builders' territory. This illustrates several things. It proves that the Mound-builders were, as we have said, greatly influenced by their environments and that their works were correlated to the geographical district. It proves also that there was, in a general way, a correspondence between the Mound-builder and the Indian, as different classes of earth-works and different tribes of Indians have been found in locations or in districts whose boundaries were



Fig. 15.—Burial Mounds.

remarkably similar. This, to some minds, would prove that the Mound-builders and Indians were the same people; but if we take into account that there was a succession of races, and that each race was equally influenced by its environment, we may conclude that the effort to identify the later with the earlier people will require something more than mere geographical division.

Let us now examine the earth-works of the different districts. (1.) The first system which we shall mention is that found in the State of Wisconsin, a State abounding with emblematic mounds. These mounds are confined almost exclusively to the small territory west of Lake Michigan, east of the Mississippi, south of the Fox River and north of the mouth of the Rock River, though a few have been found in Eastern Iowa and Southern Minnesota, on the land immediately adjoining the Mississippi River. The peculiarity of the mounds is that they so strangely resemble the forms of the wild animals formerly abounding in the territory. Very few, if any, extralimital animals are represented in them. The position of these effigies is also noticeable. They are generally located on hill-tops overlooking the beautiful streams and lakes so numerous here. The attitudes of the animals

*Twenty-second Report Peabody Museum, page 53.

are represented by the effigies and the habits are portrayed by the shapes and associations of these earth-works. See Fig. 14. We enter this district and find a remarkable picture of animal life as it existed in the mound-building period. Elk and moose and the large grazing animals are portrayed as feeding; panthers and wolves are represented as fighting; wild geese, wild duck, eagles, swallows and hawks and pigeons as flying; squirrels, foxes, coons, as playing and running; lizards, tadpoles, snakes and eels as crawling; fish and turtles as swimming, and yet all seem to have an indescribable charm about them, as if they had been portrayed by the hand of a superstitious people.

The effigies may have been used as totems by the people, and thus show to us the animal divinities which were worshiped and the animal names given to the clans; but the clans and the animals are remarkably correlated, the names of the very animals which prevailed here having been borne by the clans. More than this, the use of the effigies as protectors to villages, as aids to the hunters, and as guardians to graves, furnish an additional picture of the real life of the people. The attitudes of the animals are always natural, portraying habits and even motions, but a condition is recognized beyond mere animal condition.



Fig. 16—Fort at Conneaut.

In this same State we find the copper mines, which have been worked, and the tools which were used, by the ancient miners. They were rude contrivances, and yet show the skill of the natives in overcoming obstacles. Without knowledge of the mechanical inventions of the wheel and pulley, without the art of smelting, or even of molding the precious metals, the Mound-builders of this region succeeded in manufacturing all the metal tools which were necessary for their purpose, being mostly tools used by hunters, such as knives, spear-heads, axes, chisels, awls, needles and a few ornamental pieces. It is a remarkable fact that imitative art was expended upon the effigies, which elsewhere embodied itself in stone relics or in metal ornaments.

(2.) The second district is the one characterized by burial mounds or ordinary tumuli. See Fig. 15. This is an interesting class of earth-works and may be designated as "prairie mounds." They are situated, to be sure, on the banks of streams, rivers, lakes, marshes, but they are in the midst of the broad prairie region stretching across the north half of the States of Indiana, Illinois, all of Iowa, Minnesota, Dakota, part of Kansas and

Missouri This broad expanse of territory seemed to have been occupied by tribes of Mound-builders who merely erected burial mounds, but who, owing to their unsettled, migratory habits, did not even stop to build walled defenses for themselves; their works consist mainly in tumuli, vast numbers of which are found scattered over this entire region. We do not say that they were entirely destitute of defense, for there are occasional earth walls which show that there were permanent villages, but, in the main, defense must have been secured by stockades rather than by earth walls. Occasionally there are ridges or converging walls which resemble the game-drives of Wisconsin, and these furnish additional proof that the people were hunters.* The mounds occasionally present relics reminding us of the hunting habits of the people who erected them

Pipes in the shape of raccoons, prairie-dogs, beavers, turtles, lizards, eagles, hawks, otters, wild cats, panthers, prairie-chickens, ducks, and frogs, show that they were familiar with wild animals. The relics which are most numerous are spear-heads, arrow-heads, knives, axes and such other implements as would be used by wild hunters, with a very considerable number of copper implements—axes or celts, awls, knives, needles, and occasionally specimens of woven fiber, which might have formed the clothing for a rude people, and a few specimens of the higher works of art, but there is an entire absence of the symbols found in the mounds of the south.

(3.) The third district is the one belonging to the military class of Mound-builders. This district formerly abounded in forests, and was especially adapted to warlike races. It embraces the region situated in the hill country of New York,† Pennsylvania and West Virginia, and extends along the banks of Lake Erie into the State of Michigan. See Figs. 16 and 17.

The mode of life in these regions was military. It was a necessity of their very situation. Here was the effect of nature upon the state of society which was inevitable. These works were military and defensive, as from the nature of their surroundings they must be. The forests gave too much opportunity for

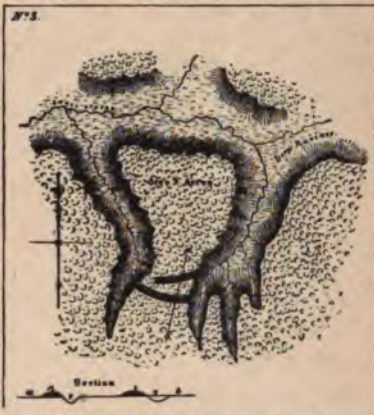


Fig. 17.—Fort at Weymouth, O.

*They are generally built at leading points along the shore of the lakes or on the banks of the principal streams, and are found as far apart as Manitoba Lake and the Illinois River. We call them buffalo game-drives, and conclude that the Mound-builders of this district were buffalo hunters. See *Archæological Journal* for 1887, page 72; *Smithsonian Report* for 1870; also our book on *Emblematic Mounds*.

†See *Aboriginal Monuments of Western New York*, by E. G. Squier; also Cheney, and Whittlesey's pamphlets.

treachery to avoid it. Human nature, when dwelling in such circumstances, would develop in this way. It made no difference what tribe dwelt there, there was a necessity for military habits. We can picture to ourselves exactly the condition of society. Whether the same or different tribes of people inhabited these regions, their mode of life was certainly dictated by circumstances. There were no means by which the people could overrule the forces of nature and gain control of her elements. It was one of the peculiarities of prehistoric society that it was conformed altogether to nature. Civilization alone overrides the difficulties and makes the forces of nature obedient to her wants. We call these military structures comparatively modern, but we do not know how long they continued as a class. If there were those



Fig. 18.—Village Enclosure of Ohio.

who led a different life they were probably located in the valleys or on the borders of the streams, just where we find a few agricultural works. But the vast majority of works, whether very ancient or more modern, are of the same class, military and defensive. Over 300 military structures are

found in the single State of New York; and scattered over the mountains of Virginia and Eastern Tennessee and Kentucky, and everywhere where the hunting life and the warlike and predatory state would be most likely to prevail, there these military and defensive structures are found. The Iroquois, the Wyandots and the Eries were warlike people. The Cherokees were also warriors, and may be regarded as the mountain tribes of the east; while the Delawares and some of the tribes of the Algonkins inhabiting New England and the northeastern States led a mingled life, partly agricultural and partly hunting. Thus we have in these localities, at least, a correspondence between the state of the population and the physical surroundings.

(4.) The fourth district is the one most worthy of notice. It is situated in the valley of the Ohio, and is characterized by what have been called "sacred enclosures." We have given them the name of "village enclosures." The characteristic works of the district are composed of the square and two circles adjoined. See Fig. 18. These were evidently the village sites of the people who dwelt here and who practiced agriculture. The locations of the works show this. Most of them are situated on the sec-

ond terrace, overlooking the rich bottom lands, but often surrounded by wide, level areas, on which forests trees grew to a great height. On the hills adjoining these village sites the conical mounds are numerous. These are regarded as lookout stations. There are also in the same region many ancient forts. Some of them are so situated as to give the idea that they were places of refuge for the villages.

There are, in the same region, certain enclosures, which contain groups of burial mounds, and in these mounds altars have been discovered, on which have been deposited large quantities of costly relics, in the shape of pearl relics, carved pipes, mica plates, copper spools, arrow-heads and many personal ornaments. These are the "sacred enclosures" which have given name to the district. In this district there are several truncated pyramids or platforms, with graded ways to the summits. These platforms have been called "temple mounds". The idea of some is, that the enclosures were places of religious assembly, resembling in a rude way the ancient Egyptian temples. At Marietta the enclosures are double. Within one are three platforms, and from it to the water's edge, or to the bottom land, is an inclined or graded roadway, guarded by high banks or earth-works on either side. At the other end of the group is the high lookout mound, surrounded by a circle, and a ditch within the circle. The group may have been the site of an ancient village, or it may be called a sacred enclosure. See Frontispiece.

(5.) The fifth district is situated along the Atlantic coast, and extends from the coast to the Appalachian range. It is the district through which various Indian tribes have migrated and left their varied tokens beneath the soil. Among these tribes may be mentioned the Powhattans, the Cherokees, the Catawbas, the Tuscaroras, and a stray tribe of the Dakotas. It is marked by no particular class of works which can be called distinctive. There are in it, however, various circular enclosures containing conical mounds, resembling those in the fourth district. These are found in the Kenawha Valley. Besides these are the remarkable circular grave pits, containing bee-hive shaped cists made of stone found in North Carolina. There are conical mounds in the district which are supposed to have been the foundations of rotundas, as posts for the support of rotundas have been found on the summit. The southern portion of the district is filled with shell mounds and earth pyramids. Considerable discussion has been had as to whether the inhabitants of this region were the Mound-builders of the Ohio district, and a comparison has been drawn between the altar mounds and earth circles in this district and those in Ohio, both having been ascribed to the Cherokees. This is a point, however, which remains to be proved. The works of the district must be ascribed to the different races.

(6.) We now come to the sixth district. This is situated south of the Ohio River, between this and the Cumberland and Tennessee. It is a mountainous and woody territory, and the people who formerly dwelt there may be called the mountain Mound-builders. The peculiarity of the works of this region is that they are mainly fortified villages. They are to be distinguished, however, from the fortifications of the third district, and from the villages of the fourth district, by the fact that they combine the provisions for defense and for permanent residence in the same enclosure. The village enclosures in Ohio are double or triple, but those found in this district are always single. Their locations show that they were chosen for defense, but their contents show that they were used for places of permanent abode. They consist largely of earth-walls surrounding enclosures, within which are pyramidal, domiciliary and burial mounds, all of which furnish proofs of long residence. The custom of building stone graves and depositing relics with the dead was common here. Stone graves prevailed in many localities—in Illinois, Southern Indiana, Ohio and Northern Georgia—but was especially characteristic of this region.

(7.) There is a district adjoining the one just described, which contains mounds and earth-works somewhat similar. The region is generally swampy, as the rivers here often overflow their banks and cover the whole country with floods. The Mound-builders dwelt here in great numbers, and built their villages on the sand ridges interspersed between the overflowed lands, and made their way out as best they could. Their villages, however, were large and numerous and showed permanent residence. The peculiarity of the earth-works was that the walls surrounded enclosures, within which were pyramids, conical mounds and many lodge circles. We may call it the district of lodge circles. In some of the conical mounds there have been found large quantities of pottery, and so the name of pottery-makers might be ascribed to the people. This pottery resembles that found in the stone graves and near the Cahokia mound, but is regarded as distinctive of this region. We may say that the district has been occupied by the Arkansas, the Kansas and Pani Indians, branches of the Dakotas, but it is unknown to what class the pottery-makers belonged.

(8.) Intervening between these two districts, and extending down into the Gulf States, we find a series of large pyramidal mounds, of which Cahokia mound, near St. Louis, is a specimen. This region may have been occupied by the Natchez, a remarkable people who were known to have been sun-worshippers and pyramid-builders. Some of the largest groups of pyramids are located near the City of Natchez, the place which derived its name from the tribe. It is a region, however, where the Chickasaws and Choctaws, branches of the Muscogees, formerly dwelt

This leaves the question as to who the builders of these pyramids were, still in uncertainty. †

The pyramids are supposed to have been occupied by the chiefs, and furnished foundations for the great houses or official residences. They are situated in the midst of land subject to overflow, and have been explained by some as being places of refuge for the people in time of high water. In the eastern part of this district there is a class of works which differs from those in the western. Here we see the elevated platform, and along with it the circular mound for the temples, and between them oftentimes the chunky yard and public square, the usual accompaniments of a native village of royal authority. Race distinction is manifest in this form of structure, and nowhere else do we find it. The tribes who dwelt in this region were the Creeks, a branch of the Muscogees. These works have been ascribed to the Cherokees, who were located in the mountains. The Cherokees, however, maintain that they migrated to the region and took possession of the works which the Creeks and Muscogees had erected. They also maintain that their ancestors were Cave-dwellers, and describe the caves from which they issued. Dr. Cyrus Thomas holds that the Shawnees were in this region in pre-Columbian times, and refers to the evidence furnished by the relics found in the stone graves, and especially those found in the Etowah mound in Georgia, as proof. The Shawnees were, however, late-comers, belonging to the Algonkin stock, a stock marked by narrow skulls. They were preceded by the Muscogee stock—a people with broad skulls. It was a tradition among the Muscogees that they migrated from the west and found the country occupied before them, while their ancestors issued from a sloping hill at the command of their divinity, who stamped upon its summit, and erected the pole, which led them through their wanderings. In reference to the Gulf States Col. C. C. Jones, who has written a book upon the antiquity of the Southern Indians, says that the tribes were only occupying works which had been erected by a preceding and different class of people. "Even upon a cursory examination of the groups of mounds with their attendant ditches, earth walls, fish preserves, it is difficult to resist the impression that they are the remains of a people more patient of labor, and in some respects superior to the nomadic tribes who, within the memory of the whites, cling around and devote to secondary uses these long-deserted monuments." This remark was made after diligent study of the writings left by the historian of De Soto's expedition and of Adair and Bartram and comparing them with the evidence given by the monuments themselves.

CARVED COLUMNS OR TOTEM POSTS OF THE
HAIDAS.

BY JAMES DEANS.

[II Paper.]

In a former paper I spoke of the appearance of these posts and of the different places at which they were to be found. In this paper I shall, at least, speak of their origin and shall quote, so far as I am able, tradition and history. In the first place, I shall give the traditions as I have had them from the old people among the Haida, in particular, and notably from Edensvud, an old chief of Tewioostor, then living at Massett, Queen Charlotte Islands, B. C. They (the Haidas) say they do not know how long ago it was that their forefathers began to build themselves houses after the present style and to set up carved columns. It was many generations ago. At first they lived in very cold and comfortless huts, without columns or any such thing, outside of their dwelling. Whether it was in order to improve his house or to inform the rest of his tribe about his name or that of his village, that the chief erected these columns, I have never been able to discover. If the name has been preserved to posterity, these people do not care to make it known. This chief seems to have been in possession of more than ordinary intelligence, because he set himself to devise a more comfortable style of house in every respect. While he was thinking over a plan an angel—or rather, I ought to have said, a spirit, for among these people angels and spirits were one and the same—appeared to his clairvoyant eyes and showed him the style of a house, with the measurements and everything connected with the future building in detail, excepting a carved column. In the same manner King David got the plan of the temple at Jerusalem.* Having been provided with a plan, he and all his tribe set to work in order to get out the requisite material. Just as they were about to build, the same visitor appeared to the chief and again showed him the plan, with this difference: a carved column was placed in front of the house, with his crest (a raven) carved on top. Underneath the raven was a second carving, the crest of his wife, an eagle. Lower down still were the crests of his father and mother, and also those of his wife's family. While showing him the plan his adviser from the celestial sphere told him that not only was his

*See I Chron., XXVIII, 13-19.]

tribe or himself to build houses like the one shown, but all the people in every village were to build the same and to set up columns. Slowly but surely as the old huts were pulled down, new styled ones took their places, each one having one or more columns. One had the husband's crest and that of his parents; the other had the wife's crest and that of her parents underneath.

This story of the origin and adoption of the new style of architecture, including the columns, by the Haidas I have told as I got it from these people, who firmly believe that it was given to their forefathers in the manner described by tradition. As said before there is no tradition whereby one may form an opinion as to the time the first column was set up. In the three closing decades of the last century, when these islands were first visited by Europeans, these columns were found in every village visited. In 1883, if I remember aright, I was shown a part of a tall column on North island, one of the Queen Charlotte group. This column stood in front of a chief's house in 1770. At the time of my visit, excepting this column, nothing remained of this village but the outlines marking the sites of the houses, and if the roots of a spruce had not entwined the rotten remains of the column it would long ago have disappeared.

To erect a house and set up its attendant columns was very expensive, and often cost the savings of years—not only of the party building, but his relatives as well. First a large number were invited to get out the material and raft it to the place of erection. When all was ready a larger number were invited to a raising bee. Meanwhile the carvers were at work on the column. For this they were paid according to the quality of the work, so many blankets per fathom. The manner of measuring a fathom by these people was thus: the measurer laid his chest on the work and spread his arms out to right and to left. The space between the ends of the fingers of both hands was their fathom. A first-class post cost generally several thousand dollars. The following I give as a sample, believing it did not cost so much:

During the summer of 1872 I visited a large, newly-finished house. Leaning against the wall were several bundles of sticks. Each stick was as thick as a man's thumb and two feet in length. My Indians told me that altogether these bundles contained 5,000 sticks, and that each stick was a tally for one blanket given away, or in all 5,000 blankets. In those days a blanket would cost these people not less than six dollars by the bale, representing in cash \$30,000 paid away in connection with this house. I told the Indians that was a large amount to pay for such a building and I could not believe it. To this they all replied that it was true. So I said no more, but went and overhauled one of the bundles. The quantity of sticks was correct, if the blankets were. The owner of this house was a

skaga or doctor, and was of considerable importance among the various tribes. His name I have unfortunately lost. Instead of a carved column he had a veritable totem post set up about twelve feet from his house. The post, which was quite round, was twelve inches in diameter and at least twenty-five feet in height. Placed on top of it was an image of a man, two feet high, naked, with the privy member erect, very large and out of all proportion. This image was the totem. The post on which the figure was placed was, like the round towers of Scotland and Ireland, a symbolization of the male privy member, and in both places was a remnant of the ancient phallic mode of worship, so prevalent throughout the world in by-gone ages. Both this image and the post on which it was placed were emblematical of the origin of life. When Skaga Modeve—his name, I believe, was Modeve—raised this post he did not do it only because it was his totem, but as a sign as well. It did not read to these people, "Modeve, the Great Medicine Man, Lives Here." It read: "The great mystery of life is my totem; its origin and preservation has always been my study, therefore I am a skagilda laggan (good doctor)."

Thus I have given the origin and signification of one sort of totem posts. In the summer of 1889 I was once more in the vicinity of this house. I found the little garden full of potatoes in full bloom. The house I found about the same. The post with the little image on top was there also, but the sexual part was gone. In answer to my enquiry as to what had become of those parts the Indians with me replied: "Since we became Christians we did not like to see it there. So a number of us loaded our guns with bullets and fired at it until we shot it off." As for the skaga, he had been gathered to his fathers a number of years, and a distant relation owned the house.

I shall proceed to take up the carved columns proper; but, before doing so, it will be necessary for a proper understanding of the subject, to give a bit of history hitherto unknown to the world.

A very marked trait in the character of all the Indians on this coast is pride. It shows itself in a variety of forms. In the first place, it gives them a desire to acquire property in order to build a house and set up a carved column. At first he is content with a common one, such as I have already described; afterwards, as his wealth increases, his ambition is to have another house and column which shall excel, in beauty and style of carving, all the others in the village. In the second place, it leads them to think lightly of others who are poor and have neither house nor column, and also to think themselves and their tribe better than all the others.

In order to lead them to be something among their people, an ugly, disgusting name used to be given them in childhood—a name that they would be ashamed of—and being so, would

be led to acquire property to give to the chief, who, for a certain amount, would tattoo their class symbol—whether the sun, dog-fish, wasco, or whatever else it might be—the youths on their breasts, and the maidens on their legs and arms. Afterwards each one would get a new and better name.

In those days the power of the chief was absolute; also none but he had columns, because he alone had the means to pay for a fine house and column. Thus matters remained unchanged for generations; but by and by a new day and life began to dawn amongst these people. The traders from China, in the latter part of the last century, and the whalers in the early part of the present one, came amongst them. The Hudson Bay Company also opened a trading post at Fort Simpson, and afterwards the steamer Beaver visited and traded with the different tribes along the coast. At this stage the men and boys found that by trading with and working for the white people, on land and on board the steamer, they could soon get property enough to build houses and to raise columns for themselves, and finally to become chiefs themselves, or at least as rich as chiefs. The women and girls also found out that by prostitution and by various services, such as washing, mending clothes, and such like, they too could become rich, wear a large labret, build large houses, and raise fine columns. They too had equal rights in these things with the men when they had the means to pay for them.

The Queen Charlotte Islands Haidas, while the traders visited them, and the whalers made their quarters at Skidegat, did well; but after a while the traders ceased to visit them, and the whalers found better quarters on the Sandwich Islands. This was about 1830, or a little later. From the time they left until 1849-50, when gold was discovered on these islands, few white people visited them.

During the few years of the gold fever they were visited by a number of vessels. Two of them were wrecked and their crews made prisoners, and afterward taken to Fort Simpson, where they were redeemed by the Hudson Bay Company. By these transactions they made considerable money, which added to the number of new columns. The gold excitement soon died out, but the natives had then a bad reputation, so no one came near them. At length, being tired of having no visitors, they thought they would see what could be got by visiting others.

So during the summer of 1853, having previously heard that many white people had come to Fort Victoria (as it was then called), and to Nundimo, they decided to visit these places, in order to see for themselves. During the summer of that year about five hundred of them, in their large canoes, landed in Victoria, which at that time was but a trading-post of the above company, and the few people there were all connected with it.

Seeing so many wild-looking fellows come suddenly amongst them, the whites were badly scared. This led James Douglas, who was then Governor, to send for the chiefs, in order to have a conversation with them. They came, and he inquired what they wanted. "We have come," they replied, "to see if we can get something to do, and to trade." "That is all very well, but why so many?" "For protection against hostile tribes," they answered. "Very good," replied Mr. Douglass, "but we can not have so many of you here; so get home again as fast as you can. Before you go, come to the store, and you will get something." After receiving goodly presents of blankets and other goods, they all left.

During their short stay they got well posted in the probability of their making money if they returned. So a few weeks after they left, four or five canoes returned quietly. At the first visit the men came in the majority; with the second visit the women came. After a few months' stay these women sent home a quantity of blankets and other goods, besides fine dresses. Seeing what had been sent, most of the people were anxious to visit Victoria. During that and succeeding years for the next twenty, they came by canoe and steamer until there were but few left at home. After staying a while in Victoria they generally went to Port Townsend, W. T.; then to all the lumber mills on Puget Sound, and in British Columbia.

These twenty years were famous for two things as far as these Northern Indians in general were concerned, and the Haidas in particular. These two things were fine houses and the splendid carved columns. I am sorry to have it to tell that while they were building these houses and carving these columns, they were at the same time chanting the requiem of the Haida people.

As I have said, the Haidah's ambition was to build himself a house and to have a column which would excel all others in the beauty of its workmanship and in that which was distinctively his own. In order to secure this he must have not only his own crest, such as the eagle, or raven, or beaver, but he must have the crests of his own or his wife's father and mother, especially if they belonged to any of the gens or orders, such as the bear, scongna, chimbago and wasco.

If a Haida was able to have a column longer and broader than his neighbor, it also entitled him to rank high among the people. At first the columns were short and the space to admit carvings limited; so with crests above and one or two old stories, the broadside was covered. Consequently, when they grew larger there was more space to fill up, as well as more new columns. This caused a demand for stories. Everything was taken hold of amongst their own and neighboring tribes—on the islands and mainland; stories handed down through passing ages—stories almost forgotten by the old people, were

collected and carved. Thus they went on carving until every family had one or two, and every village was full from end to end, mostly in front, a few being behind and on top of the houses.

While all this building and carving and striving to excel was going on, funds were wanted to meet the demands of those who were left at home to conduct operations. In order to meet them, mothers, daughters, sisters and wives prostituted themselves at every opportunity, irrespective of conditions, as long as something could be made to send home.

After a few short years of this kind of life, nature outraged and exhausted landed victim after victim in an untimely grave; some far from home, others going home to die, until few were left. As a natural outcome of all this, every column had showed a marked improvement on the one preceding it, but the family had all disappeared. Let me illustrate this by an instance which came under my observation: In 1883 there was a column finished a few years before my visit to Massett, alongside of which every time I passed I loved to linger in silent admiration of its carvings, they were so beautiful. Behind it stood the frame of a house, showing equally artistic skill. Under this frame I noticed a rude hut of boards, making a wide contrast between the two. Upon inquiry I found that the property belonged to a man who had a beautiful wife, or sister, whose charms were such that they could readily bring great earnings to the owner of them. Wishing to have a new house, it was agreed between the two that in order to have a house and column far surpassing anything in the land, he would remain at home and employ the most artistic skill on the work, and she would go down to southern parts and there, by the sale of her charms, would raise the funds with which to carry on the work. She went, and regularly by canoe and by steamer, came a supply of goods and money. The column was carved and set up, and the boards were being got ready with which to cover the frame of the house, when suddenly the supply from the South stopped. A few weeks later, word came up that she was dead and buried. Nature, unable to stand the drain on her constitution, gave out, and landed her in an untimely grave. Ever after, when I passed this house, I felt sorry when I thought of the life sacrificed in order to bring it to that state of perfection. Her intention was to return when all was finished and have the pleasure of saying, we have a prettier house and column than any in the village. Had she lived she would have stayed, after all was finished, in southern ports until she had made enough to buy one or two hundred dollars worth of goods and provisions; then returned home again; the tribe would have been invited to a house-warming, when most of the provisions would have been consumed and all the goods would have been given away in presents. But she died, and the house remains as a sign of her ruin—its beauty covering a wreck.

LEWIS AND CLARKE AND THE ANTIQUITIES OF
THE UPPER MISSOURI RIVER.

BY T. H. LEWIS.

On January 18, 1803, President Jefferson sent a special message to Congress concerning the establishment of trading houses among the Indian tribes. In the latter part of this communication he stated that the river Missouri and the Indians inhabiting it were not as well known to the citizens of the Republic as had become desirable. He considered that the whole line of communication might easily be explored by a small force even to the western ocean, by which means conferences could be held with the natives, with a view to future commercial arrangements, and, incidentally, "the geographical knowledge of our own continent be advanced." In this view, therefore, he asked that a certain appropriation of money might be made, under cover of which he could easily carry out the undertaking.

This expedition, thus prudently initiated, was the one so well known ever since as Lewis and Clarke's of 1804-5-6, the results of which, when placed in book form a few years later, became universally popular, and possesses interest even at the present day. On their journey up the river the commanders, amongst other things, did not fail to observe and note any earth-works, pictographs, or other objects they met with, which appeared of artificial origin and apparent greater or lesser antiquity. Three of the interesting localities seen and described by them after they had got above the mouth of the Big Sioux River were visited by me last September, with a view to drawing some definite conclusions concerning the earth-works situated there that they had speculated about. These reported antiquities are now treated of in chronological and geographical order.

LITTLE SPIRITS' HILL.

On August 25, having camped a little above Whitestone River (the present Vermilion), the two officers, with a party of ten men, "went to see an object deemed very extraordinary among all the neighboring Indians." * * * "This was a large mound in the midst of the plain, about N. 20° W. from the mouth of Whitestone River, from which it is nine miles distant. The base of the mound is a regular parallelogram, the longest side being about 300 yards, the shorter 60 or 70; from the longest side it rises with a steep ascent from the north and

south to the height of 65 or 70 feet, leaving on the top a level plain of 12 feet in breadth and 90 feet in length. The north and south extremities are connected by two oval borders, which serve as new bases and divide the whole side into three steep but regular gradations from the plain. The only thing characteristic in this hill is its extreme symmetry, and this, together with its being totally detached from the other hills, which are at the distance of eight or nine miles, would induce a belief that it was artificial; but as the earth and loose pebbles which compose it are arranged exactly like the steep grounds on the borders of the creek, we concluded from this similarity of texture that it might be natural."

The account then goes on to describe how the Indians believed the hill to be haunted by certain "little devils in the human form, of about eighteen inches high, and with remarkably large heads," who were skilled archers, always on the watch to slay intruders who should approach their residence. Sioux, Mahas and Otoes had such fear of it that no consideration would tempt them to visit the hill. The party remained some time on the mound, enjoying "the delightful prospect of the plain, which spreads itself out till the eye rests upon the northwest hills at a great distance, and those of the northeast still farther on, enlivened by large herds of buffalo feeding at a distance."

This elevation still retains the name given to it by the superstitious Indians, being known to the settlers and appearing on the maps as Spirit mound. It is situated in Clay County, South Dakota, on the south half of the northwest quarter and the north half of the southwest quarter of section 14, town 93, range 52. In dimensions it is about 1000 feet long and 350 feet wide at the base, and extends nearly north and south. Its average height above the surrounding prairie is about 95 feet, but on the south side there is a meadow above which it rises about 115 feet. On the highest point there is an iron tube—a station of the Missouri River Survey. The body of the hillock is chalkstone (cretaceous group), which extends up to within 30 feet of the top, and perhaps even to a higher point. The chalk is covered with yellow clay, above which is a gravelly loam which forms the surface of the mound. In shape this hill is anything but symmetrical, although it has that appearance from a distance.*

A few miles to the northwest there is a bluff which is from 30 to 50 feet higher, of which in all probability this hillock once formed a part, the space between having been eroded away.

*A. Barrandt, in Smithsonian Report for 1872, describes what he says was known to emigrants as the "Haystack". He says that it is "situated in Lincoln County, near the west fork of the Little Sioux of Dakota, or Turkey Creek, nearly 85 miles northwest of Sioux City," and his diagram shows a "county road to Lewiston" passing a few miles to the northwest of it. He makes it some 300 feet long, 120 feet wide and 40 feet high, and considers it of artificial origin. No one in Southeast Dakota that I met with seemed to know anything about any such mound, nor about any place called Lewiston, and unless Spirit mound be meant the account must be considered apocryphal.

THE LITTLE BOW ENCLOSURE.

After visiting Little Spirits' Hill their next camp was on a certain sand-bar on August 26. "Opposite to this, on the south, is a small creek called Petit Arc or Little Bow, and a short distance above it an old Indian village of the same name. This village, of which nothing remains but the mound of earth about four feet high surrounding it, was built by a Maha chief named Little Bow, who, being displeased with Blackbird, the late king, seceded with two hundred followers and settled at this spot, which is now abandoned, as the two villages have re-united since the death of Blackbird." Farther on in the book, apropos of the Bonhomme works, it is remarked that "some of our party say that they observed two of those fortresses on the upper side of the Petit Arc Creek, not far from its mouth; that the wall was about six feet high, and the sides of the angles 100 yards in length." This location would be in Cedar County, Nebraska, and just above the present Bow Creek. It is very evident from the wording of the description given above that it treated of something unseen, at least by the compilers of the book, but of which they had heard. This illustrates the folly of taking "hearsay" evidence in scientific matters, for there are no traces of any village or artificial works of any description to be found in this neighborhood above the mouth of the Bow, the land being low and subject to overflow. There are, however, several natural ridges, similar to those on Bonhomme Point, which run parallel to the current, when the water is high and covers the bottom.*

THE "ANCIENT FORTIFICATIONS" NEAR BONHOMME ISLAND.

They continued their ascent of the Missouri, and on September 2 arrived at what was apparently a place of the greatest importance. To quote the narrative: "We went three miles to the lower part of an ancient fortification on the south side. * * Captain Clarke crossed the river to examine the remains of the fortification we had just passed. This interesting object is on the south side of the Missouri, opposite the upper extremity of Bon Homme island, and in a low level plain, the hills being three miles from the river. It begins by a wall composed of earth, rising immediately from the bank of the river and running in a

*On adjacent hills and plateaus there are isolated ruins of old dirt lodges similar to those constructed by the Mandans. There is also an ancient fort on the east or lower side of Bow Creek, about two miles from its mouth, and another still farther south, near Hartington, but these two forts were unknown to the Lewis and Clarke expedition. In this connection it may not be amiss to state how the narrative of the expedition was framed. No official report was published, but after a time Captain Lewis began to prepare a full account for publication, which work he had scarcely begun before his death interrupted it. It was then taken up by Nicholas Biddle and Captain Clarke, who had before them the letters and diaries of the principal officers, together with some journals of subordinates. The work was very nearly brought to completion when Mr. B. dropped it. Finally the book was carried through the press by another man and published in 1814, eight years after the completion of the survey. Under such circumstances it is no wonder that discrepancies of various kinds are occasionally found in it.

direct course S. 76° W., 96 yards; the base of this wall or mound is 75 feet and its height about 8." This is the beginning of a minute description of the works according to bearings and distances which, with the necessary description of the river topography and conditions, takes up ten and a half pages of the printed volume. A ground plan is also given, which shows a "redoubt" on the island, and on the main shore opposite a "horn work" or "citadel"; together with two long walls which begin just above the horn work and extend across the bend, at a diverging angle, till they strike the river again; also a number of isolated mounds. This description and this map have always been of interest to antiquarians, and seem to have been accepted by them as proofs of the existence of prehistoric earth-works on the upper Missouri, judging from the mention made of them in their various works. The explorers apparently never thought that this site, on so uncertain a river, was a very poor one for military purposes, though, to use their own words, "the young willows along the water joined to the general appearance of the two shores, induce a belief that the bank of the island is encroaching and the Missouri indemnifies itself by washing away the base of the fortification. The citadel contains about twenty acres, but the parts between the long walls must embrace nearly 500 acres. These are the first remains of the kind which we have had an opportunity of examining; but our French interpreters assure us that there are great numbers of them on the Platte, Kansas, the Jacques," etc.

So striking a place as this would naturally draw the attention of antiquarians, but it was never visited, it seems, by any one of them to verify the statements of Lewis and Clarke. On the other hand the geologists, whether those who saw the works or those who did not, have all united in the opinion that they are due to natural causes. Professor F. V. Hayden, who was with Lieutenant Warren in 1855, in a private letter written in 1867, says: "The works on Bon Homme Island I examined years ago; they are natural driftings of sand." Each profession, however, naturally leans to the explanation most favorable to its own aggrandizement. As a practical archæologist, therefore, knowing well that ancient earth-works of artificial origin really do exist on the Upper Missouri, I considered it not a waste of time to make a personal visit to the island and the shore opposite Nebraska. It was not that I had much expectation of finding the military elaboration which Lewis and Clarke found, but rather to gratify curiosity in general, and further to enable future antiquarian writers to either define precisely these works "1000 miles up the Missouri" as the work of man, or justify them in omitting any mention of them at all if again shown to be natural.

Bonhomme Point is on the Santee Reservation, in the north part of Knox County, Nebraska, nearly opposite to the village

of Bonhomme, South Dakota, and just 920 miles from the mouth of the river according to the published maps of the United States Commission. The earth-works so gloriously described by Captain Clarke as existing on this point are only sand ridges formed by the river, the land being low and subject to overflow. Above the point the river deflects from the Nebraska shore and the strong current strikes the high bank on the Dakota side, and is gradually cutting it away, while at the same time the point is being extended to the north by the accretions from the river. In this way the point has been gradually built, and each successive flood also adds to its general elevation. The sand ridges—of which there are a number extending across the point—mostly conform to the general direction of the current when the river is at a high stage, for at such times it does not follow the main river bed or channel, but takes a straighter course down the valley between the high banks and bluffs.

Bonhomme Island is east of and just below the point, but is now connected with it by a bed of sand, the old channel having been filled up within recent years. The general formation and character of the island are similar to that of the point.

The circular redoubt represented on Lewis and Clarke's maps as located on the west side of the island is one of those curious natural sand formations which are occasionally met with along the Missouri Valley. The bank or wall is somewhat irregular in outline and lacks considerable of being a circle. Some enterprising settler has utilized one side of it by building a claim shanty upon it.

This island is covered with sand-blows, dunes and ridges, and it is rather strange that the elaborate description of the point was not extended so as to include all of the island, but perhaps the greater portion of them have been formed since the time of the expedition, or that the island—then as now—was covered with heavy timber and a dense undergrowth, which hid them from view.

It may be added that along the Missouri, from the mouth of Knife River to Sioux City, there are many low points and bottoms and some islands, on which there are similar ridges and dunes. Probably the most elaborate of these "earth-works" are located on the west side, opposite Springfield, South Dakota, and on the west side, opposite to and above Washburn, North Dakota.

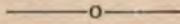
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Some allowance should be made for the misled enthusiasm of these eminent explorers, whose observations are here subjected to revision. Their journey was made at a time when the public's attention had been but lately arrested by important discoveries of imposing monuments of antiquity in the valleys of the

Ohio and Mississippi, and it was but natural to surmise that something of the kind might be found on the Missouri River, whither the travelers were bound. Between exaggerations arising from the fervid imaginings of honest travelers, such as Captain Carver and our Missouri explorers, on the one hand, and the still more extravagant dreams—if not pure inventions and inexcusable falsifications—of the Pidgeons and Barrandts on the other, northwestern archæology has had to put up with various persistent errors. Each new writer on "North American Antiquities" felt himself obliged to make a brief reference to the Bonnhomme works in the light of their original mention as "fortifications" or prehistoric mounds.

Considering these mistakes, therefore, should not the working archæologist endeavor to make himself useful by doing away with error, where possible, as well as by adding to the stock of useful facts?

St. Paul, August 10, 1891.



NEOLITHIC MAN IN NICARAGUA.

BY J. CRAWFORD, Managua, Nicaragua.

Numerous evidences of panic and fright among men and domestic animals in Nicaragua, in one of the past geological epochs, are deeply impressed on stratified rocks many feet below the earth's surface, under the city of Managua, extending south and southeastward from Lake Managua to a distance of over one mile, possibly further, as far as has been examined, in the direction of the extinct volcano Masaya, ten miles distant. The footprints indicate haste, confusion and excitement, and are impressed from one and one-half to two inches deep in the stratum, the toes of the feet in every footprint made the deepest mark and pushed the mud back toward the heel, as usual from running in shallow mud; all are pointed, many directly, others obliquely, toward Lake Managua, as if to seek shelter in its waters from a storm of burning hot volcanic ashes and cinders, or some equally dangerous occurrence. A few roughly polished arrow heads and barbed harpoons, but no skeletons nor bones have been found in that nor in any of the superimposed strata.*

*Since this paper was written, November, 1890, there has been found (Feb. 10, 1891.) the dust and small disintegrated parts of several cranium bones and three or four teeth of some human being, in an urn of oblate oval form made of volcanic, iron-colored clays and sand and burned. The dimensions of the urns are: depth 68 c. m., greatest diameter 68 c. m., diameter across opening at one end 43 c. m., thickness in walls $\frac{1}{4}$ to $\frac{3}{8}$ of an inch. This was discovered in a quarry in the southern part of the city of Managua, about 15 feet below the earth's surface and resting on a stratum composed of volcanic ejecta hardened sufficiently to be quarried and used in the construction of all kinds of walls for residences and public buildings in the city of Managua; about 16 feet beneath the urn, four hard conglomerate strata intervening, is the stratum on which human footprints were found in large numbers. The bones and urn were purchased by the consul for Austria, and will be sent to the museum in Vienna, Austria.

A short topographic and stratigraphic description of the locality will enable a comparison to be made with similar conditions of surface and strata in other countries, whose geology is better known, in order to determine the epoch when these people lived, and possibly to decide on the cause of their flight.

For a few feet south from the water margin of the lake, the formation is a coarse sandy beach, then an abrupt cliff 8 to 12 feet high above the surface of the water, thence south and south-eastward for more than a mile, the surface ascends to about 180 feet above the level of the water in the lake, then comes a series of volcanic montecules, cones, craters, and cerros, somewhat degraded by erosion extending twenty-five to thirty miles eastward to Lake Nicaragua.

The stratum bearing impressions of human feet is near Lake Managua, about 14 feet beneath the surface of the soil, and on a level with the high water mark. It is not much inclined but nearly horizontal with the present surface of the earth as it ascends south and east of the lake.

* * * * *

The time when men, dogs and *horses** fled to Managua to shelter themselves from the highly heated cinders and ashes ejected from volcano Masaya, was most probably very long ago.

We may go back, in time, toward that epoch guided by such facts as the following. From intelligent and reliable witnesses we learn that volcano Masaya, about ten miles eastward from the city of Managua and on the west side of the city of Masaya, commenced on the 10th of November, 1858, emitting (from a fissure in its side about 400 feet below the rim of its crater containing a lake of water) aqueous vapors, sulphurous acid gas, chlorine gas, carbon dioxide, etc. This continued for about ten days† then ceased, and, although a part of that fissure still exists, gaping and ugly, yet the entire volcanic mass is now so cool that its sides and the outer and inner edges of its crater are covered with small green trees and flowering plants, accompanied by many birds‡ which appear to consider that volcano extinct.

From history we learn that on the 10th of March, 1762, a fissure opened in the side of this volcano Masaya, about 300 feet below the rim of the crater, and poured out lava, at intervals, for several days, which covered an area about one-half mile wide, near the fissure, and widening gradually, for an extent of three or four miles into a forest of large exogenous trees, leaving over its course a mass of scorix, obsidian, vesicular lava and

*No impression of the side toes of horses have been found in this stratum, in the two or three inch deep impressions of horses' feet.

†The statements are various.

‡I have noticed in the volcanic part of Nicaragua and in other countries, that birds seldom or never visit volcanoes that have hot tops and have no isogeothermal plane corresponding with the surrounding country; birds and wild animals appear to have an instinctive knowledge of the natural causes, dynamic and kinetic, at work in the mysterious depths of the earth.

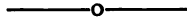
stones, which now look as if fresh and hot. Many trees along the edge of this flow of lava were carbonized, and parts of them are yet standing. The ashes and cinders then sent out with explosive force through the fissure, have been washed away down into the lakes. The volcanic activity created no great disturbance is the present city of Masaya, situated on the east side of the volcanic mountain, opposite to the fissure, and the ashes reached to the city of Managua, ten miles distant, only by occasional gusts of wind, not of sufficient quantity or temperature to cause any other unpleasantness than great apprehension of danger.

Anterior to this activity in 1762, we have no reliable human record of any other outburst from this volcano, and physical evidences indicate that it had been quiet for very many centuries, possibly for one or more geological epochs.

In comparing these facts in reference to the eruptions with other volcanoes the history of which is better known, but which have far more deeply eroded sides, of which facts are obtained, we find, that the materials forming, in considerably large part, the montecules, cones and sides of Etna, are easily loosened by rains and can be washed down in large quantities by torrents as at volcano Masaya; also that each, in its own locality, has seasons of heavy rains; but the lava which poured from Etna four hundred years B. C., and stopped the Carthaginian army in its march against Syracuse, is now, much of it, exposed on the earth's surface where it flowed and is not covered by sedimentary materials, washed down, from Etna's side, nor covered by floods of mud. Yet, in less than ten miles from volcano Masaya, the stratification near Lake Managua of materials ejected from volcanoes and washed down and deposited, is hard and more than twelve feet thick at its least depth, above the hard stratum deeply impressed by human footprints, and these impressions of feet were made when the surface of that stratum was only partly hardened or in a stiff, muddy condition. Any estimate in years of the time necessary to form and then to harden an ejecta conglomerate so slowly as not to fissure, such as each of these strata near Lake Managua, and the time intervening between the drying and hardening of one stratum before commencing the deposition of another, would be solely speculative. I have not sufficient data from my own or others' observations of volcanoes as to the average quantity of matter annually washed down from their sides, either by ordinary rains or during seasons of extraordinary floods, to make from the annual erosion an estimate of time necessary to form such deposits as the conglomerate strata beneath the city of Managua and extending toward the extinct volcano Masaya.

There certainly has been an epoch of great elevation a glaciation in part of Nicaragua, and a subsequent epoch of su

sidence in all, and much ice melting and torrential floods in parts. There are many evidences here of the occurrence of the glacial, champlain and terrace epoch. Probably this stratum containing human footprints, and the superimposed strata, were deposited during the later elevation and depression of the champlain epoch and early part of the terrace; if so, then there is in Nicaragua evidence of men in large numbers and congregated in large towns or cities of thirty thousand or more, during the later champlain or early terrace epoch. And, if we accept M. Foret's calculations in reference to the time occupied in silting parts of Lake Geneva by the River Rhone in an effort to get at the date of the conclusion of the glacial period there, as a basis for the hardening of the stratum underneath the city of Mangua, we can probably say more than fifty thousand years ago.—*American Geologist, September, 1891.*



THE MAN OF SPY.

BY MAX LOHEST.

Among the most interesting exhibits at the recent meeting of the International Geological Congress, was that of M. Max Lohest, of Liege, Belgium. Although unfortunately M. Lohest's paper was crowded out, and consequently the members had not the advantage of hearing it, yet his photographs and pamphlet were examined by several of those who combine archæology with geology.

M. Lohest's paper read before the Anthropological Congress gives an account of his investigation of the grotto of Spy, near Liege, on the property of the Count of Beaufort. In this cavern M. Lohest found under a thick bed of rubbish and fallen fragments of limestone, three distinct ossiferous beds. The uppermost of these was in part stalagmitic, and contained a few bones of an undetermined species of deer, a bear's tooth, and some pieces of the bones of the mammoth. Besides these and mingled with them were great numbers of flint implements of various patterns, some of them resembling the type known as "Mousterian," from the cavern of that name, and others are like those found in the well known Engis cave, in Belgium. Some are notched like saws and of very thin and delicate workmanship. They consist of scrapers, points, blades, knives, etc., worked on one face, some apparently to be set in handles and others not.

No instruments of bone or of ivory were found in this upper layer and the flints are mostly covered with a white or bluish patina, sometimes very thick.

Under this stalagmitic layer was a second ossiferous bed,

usually red from the presence of iron ore, many fragments of which were found.

Here occurred the following fauna: *Rhinoceros tichorhinus*, abundant; *Equus caballus* (horse), very common; *Cervus elephus* (red deer); *Cervus canadensis?* (elk); *Cervus megaceros* (Irish elk); *Cervus tarandus* (reindeer); *Ovis aries* (sheep); *Bos primigenius* (bison); *Bos priscus* (aurochs); *Elephus primigenius* (mammoth), very abundant; *Ursus spelæus* (cave bear), scarce; *Meles taxus* (badger); *Canis vulpes* (fox); *Canis lupus?* (wolf), *familiaris?* (dog); *Mustela foina* (weasel); *Hyena spelæa* (cave hyena), very abundant; *Felis spelæa* (cave lion), a few teeth; *Felis catturs* (cat); *Sus scrofa* (pig). These determinations are due to M. Fraipont, professor of palæontology at the University of Liege. Numerous hearths were also found on this layer composed of stones, and containing burnt wood and ashes.

The material used by the old inhabitants of this grotto were flint, phthanite, sandstone, chalcedony, opal, ivory, bone and horn, and the total number of implements obtained was very large. There are 140 "Mousterian" points, most of them thick at the base and not intended for setting in handles, whose average dimensions are 4 inches long by 3 inches wide; a number of fine flakes and awls, and arrows or dart heads, of very fine workmanship, and some of them 5 inches long, resembling in type the "solutrean" implements of the Dordogne, a single small core from which flakes have been taken, and numerous blocks rejected on account of some defect after a flake or two had been struck off, and 300 scrapers of various sizes and types.

Implements, etc., of ivory were more numerous in this layer than in any other known cave in Belgium. Chips were so abundant as to form a breccia in one place. The objects found were for the most part for dress or ornament, and the material had often degenerated into a chalky substance. Many of them were unfinished or the different stages of manufacture were revealed. Some of them were marked with striation, as was also the case with the implements of horn and of bone found with the ivory. On a rib of the mammoth or rhinoceros was found a series of "circumflex accents" ranged one above another, of which a figure is given in the pamphlet. One hollow horn was filled and stained with iron oxide, and is supposed by M. Lohest to have been a receptacle of this material for coloring the persons or the implements of the cave men. These with four fragments of pottery, found by another investigator, complete the list of relics from the second ossiferous layer.

The third contains a fauna; so far as it goes, identical with that of the second bed. *Rhinoceros tichorhinus*, abundant; *Equus caballus*, very abundant; *Cervus elephus*, rare; *Cervus tarandus*, rare; *Bos primigenius*, common; *Elephus primigenius*, common; *Ursus spelæus*, rare; *Meles taxus*, rare; *Hyena spelæa*, abundant.

In this bed, however, were found, as in the other, abundance of flint implements, but somewhat different in form and material from those above mentioned. The great interest of this layer, and indeed of the whole find, is the discovery not only of the works of man, but of man himself, in the form of two partial skeletons, one skull of which is nearly complete. This of course forms the central point of M. Lohest's paper, and he justly goes into detail concerning it. We will condense his account written by Dr. Fraipont.

"The human relics belong to the most ancient fossil race, that of Neanderthal or of Canstadt. The skulls, fairly complete, present all the ethnic characters of that race, whose remains are known from France, Italy, Austria, Germany and Sweden. Hitherto only a single jaw has been obtained from a cave (Naulette) in Belgium."

One of these skulls is apparently that of an old woman, the other that of a middle-aged man. They are both very thick. The former is clearly dolichocephalic (index 70), the other less so. Both have very prominent eyebrows and large orbits with low retreating foreheads, excessively so in the woman. The lower jaws are heavy, the older has almost no projecting chin. The teeth are large, and the last molar is as large as the others. These points are characteristic of an inferior and the oldest known race. The bones indicate, like those of Neanderthal and Naulette, small square shouldered individuals. M. Lohest adds:

"The skeletons from Spy are among the most important discoveries relating to the oldest known race of men. The cave shows three ossiferous layers, and remains of the mammoth occur in all three. Stone implements chipped only on one face indicate the 'mousterian' type of industry."

"The relics of the three layers indicate an advance in the character of the workmanship."

"The second layer by its association of chipped tools with ornaments of ivory and bone show its close relationship to the 'mousterian' type, and at the same time is free from all suspicion of accidental mixture."

"The study of the bones of the lowest level proves beyond doubt that the earliest race of men as yet known in Belgium, had a skull of the type of 'Neanderthal' and used instruments of the 'mousterian' pattern."

In the above discovery we have at last clear and indisputable traces of the men whom up to now we have known almost entirely by their tools. A few disjointed bones not free from suspicion, are now fortified by evidences that cannot be gainsaid, and the old Canstadt or Neanderthal race stands before us as an extinct but real ancestor.—*From the American Geologist, September, 1891.*

Editorial.

ANTIQUITY OF MAN IN EUROPE AND AMERICA.

We give in this number a series of articles on the recent discoveries and discussions which bear so closely on the subject of the antiquity of man. These discoveries are now so well authenticated and so carefully stated that no one can fail to give them great weight, but the discussions seem to take the turn which each one's preconceived opinions direct. This thing, however, may be said, the age of man in Europe does not at present affect his age in America, since the discoveries on the two continents are in great contrast. According to the Europeans the order of the ages is as follows: I. The paleolithic age, divided into (1) the age of the gravel, (2) the age of the earlier troglodytes and the extinct animals, (3) the age of the later troglodytes or the reindeer period. II. The neolithic age, divided into (1) the age of the kitchen middens, (2) the earlier lake-dwellings, (3) the barrows. III. The bronze age, divided into (1) the later lake-dwellings, (2) the rude stone monuments. Recent discoveries in America, have, however, brought confusion into the order, and we have, as some would claim: I. The Nampa Image. II. The footprints in Nicaragua. III. The stones from the gravel-beds in Ohio and New Jersey. This places the neolithic before the paleolithic. It would also assign the age of such extinct animals as the mastodon to a later period, namely, that of the Mound-builders, thus reversing the case still more. Now the question is, which shall we follow, the order given by the Europeans, which seems so well established, or that suggested by recent American discoveries, which is so unsettled?

The date of the paleolithic age, to be sure, has been lessened by the American geologists, but the date of the neolithic has been made earlier than the paleolithic. The problem is before us. Shall we give up the order and place the neolithic before the paleolithic, and say that the geology of the west has proven this? or shall we hold to the order and say that the Nampa Image and the footprints must be more recent than the paleolithics of the gravel beds? In other words, shall we yield our archæology to geology, or shall we hold to archæology and leave geology to adjust the dates and order of superimposition by further discoveries. The volcanic deposits certainly ought not to control the more regular.

ARCHÆOLOGICAL NOTES.

THE FOOTPRINTS IN NICARAGUA.—We have given a quotation from *The American Geologist* on "The Footprints of Nicaragua," for the reason that we think our readers will desire to know what is to be said further on the subject, as THE ANTIQUARIAN has been the chief means of information. Mr. Crawford's position seems to be different from that of Dr. Earl Flint, but he certainly has placed the date of the footprints farther back than the facts will admit. We call attention to the discrepancies. The writer speaks of horses. What kind of horses does he mean? He speaks also of the champlain era, but places the date of the footprints 50,000 years ago. Geologists do not claim any such antiquity for champlain depositions. The evidences of population given by Mr. Crawford in reality refute his position as to the extreme age. We conclude that there are no means of determining dates as to any of these remarkable finds, whether in Nicaragua or near Table mountain, for they are in volcanic regions, where the ordinary operations of nature are entirely changed.

THE MAN OF SPY.—We have quoted from *The Geologist* a few remarks about the Man of Spy. In *The American Naturalist*, Dr. Thomas Wilson also refers to the discussion before the International Congress at Paris, in 1889. The cavern where the skeleton was found is on the Meuse, in Belgium. Dr. Topinard was doubtful if the facial portion of the face was correct, and said the osteology of the body must rest doubtful. The incurvation of the tibia was apparent. M. DeQuatrefages reserved his opinion as to Simian resemblances. Dr. Hamy said that the skull had re-habilitated the Neanderthal, and gave proof that in the quaternary a special human race appeared, bearing characteristics between the Neanderthal and the Constadt. New evidences of these were to be found in the fragments from Lahr, discovered in 1823; also from the Grotto de Gourdan and the Grotto of Malarnaud, and from Naulette. The race of Cromagnon is also represented by several new discoveries. Dr. Lagneau spoke of the great extension of territory which this race of Constadt had covered in pre-historic times.

THE GEOLOGY OF EGYPT.—As illustrating further this subject we would refer to a very interesting article in the last number of *The Journal of the Victoria Institute*, by Professor Edward Hull, on "The Geological History of Egypt." In this article the author shows the changes which occurred during the eocene, miocene and pleiocene ages, and makes especial reference to the first "continental period" of Lyell, and the age of the mammoth,

of the hairy rhinoceros, and of paleocosmic man. At the close of the pleiocene or the commencement of the pleistocene period a great migration of the European animals into Africa took place, by which the aboriginal forms were replaced by the invading host of fiercer and more powerful animals. The gradual elevation of the land and lowering of the temperature during the glacial period drove the animals (whose remains are found in the caves) to the southward. This accounts for the presence in Africa of the numerous forms of the pachydermata, felines, antelopes and ruminants. Perhaps man followed in the steps of the great pachydermata and felines, when they became object of the chase. Certain it is that rude stone weapons and works of human art occur in the ancient terraces on the banks of the Nile, which are of an age long anterior to the most ancient works of Egypt's historic art. The terraces on the Nile were formed during a time of depression and submergence which followed that of elevation. The Nile was an arm of the sea, a deeply eroded plain at its mouth, where now is the delta. The Mediterranean and the Red sea joined, and the waters of the Jordan formed a lake 120 miles long, and 100 feet above the present level, or 1400 feet above the present surface of the Dead sea. The length of time which has elapsed may be estimated by the deposition of the alluvial deposits in the delta of the Nile—that is, from the period of paleocosmic man to the colonization of Egypt. According to Sir J. W. Dawson this was about 5,000 years, this colonization having taken place about 3,000 B. C. This corresponds with the ordinary estimate as made by American geologists (8,000 or 10,000 years) for the glacial period and the appearance of paleolithic man.

CUP STONES AND RING MARKS.—Our readers are aware that a few years ago Dr. Charles Rau prepared a monogram, which was issued by the Smithsonian Institute, on cup stones and ring marks. He showed that these simple sculpturings are found all over the globe, in India, in the British Isles, Germany, Denmark, Sweden, France, Switzerland, in the United States—in Pennsylvania and Dakota—also in Mexico and elsewhere, and referred to some of the explanations of their use. The subject was so treated, however, that the cup stones became more mysterious than ever. It appears now that another author has written a new but anonymous book (published in by A Reader, London, 1891), and has given some interesting facts not accessible to Dr. Rau, but takes the position that phallic worship was embodied in the cavities. Mr. T. H. Lewis also has discovered a group of them in Ransom County, Dakota, and has published a pamphlet with an illustration of the group. The peculiarity of this group is that the cups are connected by straight parallel channels, with transverse channels. These transverse channels differ from those found anywhere else, as they mark the outlines

of certain animal figures, a perforation or cup cavity being seen in the head and another near the tail of one of the animal figures. This discovery, we think, does away with several of the theories which have been held by the European archæologists. One of these theories was that they marked the place of altars to Baal; another was that they were made by the Druids and were connected with their mystic rites; another was that they were phallic symbols, frequently containing emblems of the Mahadeo; another that they were used in connection with human sacrifices, the channels having once been filled with the blood of the victims. This discovery by Mr. Lewis of parallel channels with cups at the end, and transverse channels representing animal effigies, nonpluses the theory, however, and leaves the subject again in obscurity.

THE STUDY OF SKULLS.—We respond heartily to the suggestion made by the Europeans, that the subject of craniology and comparative anatomy be followed up more carefully by the Archæologists. We confess to great awkwardness when we reach a skull or skeleton. The attitudes and situation we are careful to note, as these have to do with the customs of the American races, but merely discerning the difference between the skulls and skeletons as they are exhumed in a general way, is not sufficient; and yet no one in the west, be he a professional practitioner or not, seems to have had experience in craniometry. We suggest that the University of Pennsylvania, where Dr. Morton deposited his great store of human crania, take up this subject as a specialty. The local work of gathering relics for the museum, is important, and the curator is receiving notices enough for that. How will the discoveries of crania be utilized? This is the question before us.

THE SKULL OF THE SERPENT WORSHIPER.—In this connection we would mention the fact that the study of craniology has generally so far been neglected by most of the explorers in this country that we can draw no comparison between skulls found in America. Another thing in our way is that so far, very few caves with human remains have been discovered in the northern continent. We have, however, one discovery to mention which has a bearing on the subject: In examining the skull taken from the depth of the serpent mound near Quincy last summer, we noticed the very great contrasts between its shape and that of all the other skulls which have been discovered. The skulls from the tops of the mounds in this vicinity, all of the common type—long, narrow, and angular—resemble those of the later native races of the hunter class. This skull is not only broad and flat, but it lacked the angular peculiarities. It is a very heavy skull and was attended with a large-boned skeleton. We have noticed three kinds of skulls in the northern mounds: one

with the angular occiput, another with the symmetrical shape, this one with the broad and low forehead and heavy posterior. We might class the first as dolichocephalic, the second as orthocephalic, and the latter as brachycephalic. It is not a southern skull, nor is it a skull resembling the negro, but is unique.

MAX MULLER'S ADDRESS.—The celebrated Max Müller, in 1847, delivered an address before the British Association, and after an interval of over forty years has, in 1891, given another, in which he reviews the progress of the science of philology and ethnology. His positions are somewhat startling, especially if we consider the sentiments uttered and the impressions generally held. He claims that he has always opposed the idea that ethnology was based either primarily or even chiefly on philology. He also claims that the languages of savages are all of them the fragments and decadence of more advanced tongues. He further states that the differentiation of skulls took place in prehistoric times, but maintains that the theory that the Aryan speech belonged to the dolichocephalic, or the Semitic to the mesocephalic, or the Turanians to the brachycephalic, is a mere random guess. This is, to our mind, a very sensible conclusion on the part of the great professor.

THE CARTHAGE FIND—A recent find of skeletons near Carthage, Illinois, has excited some attention from the newspapers. This find was so similar, however, to several which the editor himself has made that it excited no surprise. The fact is that in this region—the region between the mouth of the Illinois River and of the Rock River—the prevalence of bone burials is about as marked as that of burials in the ordinary way. We have found mounds with the layers of bones alternating with layers of flat stones, the skulls in rows and the long bones placed promiscuously, exactly as the professors of Carthage found them. Thanks are due, however, to Messrs. Hill and Davidson for the information. The modes of burial practiced were as follows: 1. Skeletons with knees drawn up to the chin, in the top of the mounds. 2. Skeletons in a recumbent attitude, sometimes wrapped in red paint, but oftener with stones placed around them, in the middle of the mounds. 3. Skeletons with evidences of partial cremation, at the bottom of the mounds. 4. Skeletons lying parallel, and thoroughly cremated, were found at the bottom of the mound in the serpent effigy, the bodies having been placed on the altar or fire-bed. The bone burial was probably practiced by some recent tribe of Indians. We do not ascribe them to the Mound-builders.

INSCRIBED STONE.—A letter containing an account of a find near LaHarpe has been received from Mr. J. W. Hungate. The stone was found under an oak tree, which was twelve inches in diameter, not far from the site of an old stockade wall or earth

circle, called by some Fort LaHarpe, though there is no other evidence that the fort had ever been visited by the white man. The following is a description given by Wayman Huston, the person who made the discovery: "Each slab is about ten inches long and eight inches broad, the upper edge of each being straight and smooth, and five-eighths of an inch thick. The other edges are irregular and quite thin. The composition is sandstone, impregnated with iron, and quite hard. They were discovered about one hundred yards south of a small stream or creek, in a woodland pasture, and on a hillside, where the soil was yellow clay, and doubtless had never been disturbed by the plow or by tillage of any kind. They were lying flat, with the inscribed faces together, and close to them was the head of an Indian arrow-point and three flint spalls, each with sharp edges. The inscribed face of the slabs seems to be unchanged by the elements since split off, probably, from the same water-worn boulder. The reverse side appears about as smooth as an ordinary boulder. The inscription is clearly cut, possibly by one of the flint spalls found near them, and it consists of a date in Arabic figures and also writing in Roman letters. The date appears to be June 11, 1715. The writing is certainly not French nor Italian, but what it means I can not make out. *A fac simile* of the inscriptions is attached to this affidavit. I delivered said stones to Daniel Sovit, who deposited them in the bank of Hungate, Ward & Co., in LaHarpe, where they now are."

FLINT DISKS.—Seven thousand two hundred and thirty disks and leaf-shaped implements were recently taken from a mound near Clarke's Fort. Mr. W. K. Moorehead, with a corps of explorers, has been at work on the mounds near this celebrated earth-work, where Squier and Davis formerly found so many interesting relics. The deposit was in an elliptical mound, "No. 22." It is suggested that the shape of the mound was the same as that of the disks and that there was a symbolism in the whole deposit. The only discrepancy in this theory is that the apex of the heaps of disks did not correspond with that of the mound, the ovoid mound having its axis north and south, but that of the heap trended to the west. *The Chillicothe Leader* has an account of the find. The disks, when taken out, are said to constitute a pile twelve feet long, three feet high and four feet broad, and are reckoned as about half a car-load. Mr. Moorehead is exploring these Ohio mounds in the interest of the Columbian Exposition, in the department of which Prof. F. W. Putnam has the charge. His method of work is said to be accurate and painstaking, and we congratulate him on the fortunate find.

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THE RELIGION OF THE MOUND-BUILDERS.

BY STEPHEN D. PEET.

We have undertaken in this chapter to give a map of the religion of the Mound-builders. To some it may seem to be a Utopian scheme, only based upon speculation, but we maintain that the effort is not only useful in giving us more definite conceptions of the different phases of that religion, but in reality is correct in its classification. The following particulars will show this: 1. The religious systems in the map correspond to the ethnic divisions of the Mound-builders' territory which we have already made. These divisions indicate that there were different races occupying different districts, and the present view not only confirms this, but indicates that the races had systems of religion which were distinct and different from one another. 2. The classification of the religious system corresponds with that of the works and relics, and so proves that the religious cult had much to do in giving them their special characteristics. 3. The map shows that there was a progress in the religious cult which corresponded to the other lines of progress made by the Mound-builders. The different stages of progress may be recognized in each district as we pass over the Mound-builders' territory.

4. The different phases of nature worship given by this map have been recognized among historic races. We maintain that they really originated among prehistoric races. Some of these are rude and primitive, but they wonderfully illustrate the systems that prevailed in ancient times, and help us to understand the origin and growth of the different historic faiths. They seem to be mere superstitions and unregulated fancies of rude savages; but in them we find the beginnings of that extensive system which grew into so many elaborate faiths and forms. We are thus brought to the threshold of a great mystery and in the midst of a deep problem, the whole field of comparative religions having

suddenly opened before our vision, and the relation of man's religion to his environment rising like a mountain in the background.

5. There was evidently a supra-naturalism among the native races, which was dim and shadowy, but as, among the Mound-builders, it embodied itself in the relics and in the earth-works it becomes an object of study, and so we may define each phase by referring to these material forms. We do not claim that any one system was exclusive of all others, for the systems are often mingled together; yet there was such a predominance of one over the other that we may take the map as a fair picture of the different systems. The complications are, to be sure, numerous and the tokens varied, but the geographical divisions separate them sufficiently so we may actually decide what the characteristics of each cult was.

6. The divisions in the map correspond with the divisions of various Indian tribes or races, which are known to have inhabited the country at the time of the opening of history, thus showing that there were ethnic causes that produced the different systems of religion among them. There is a wonderful correspondence between the systems which prevailed in the modern Indian and the mound-building period, showing that the native races were affected by their surroundings.

The religious sentiment was strong among the native races of America. It seems to have manifested itself in different ways in different localities, showing that it was everywhere subject to the influence of climate, soil, scenery, and physical surroundings. It largely partook of the character of nature worship, but obeyed the law of natural development. If we take a map of the continent and draw lines across it, somewhat corresponding to the lines of latitude, we will find that this map not only represents the different climates and occupations, but the religions of the aborigines. What is more, these different religions will embrace nearly all of those systems which have been ascribed to nature worship: Shamanism prevailing among the ice fields of the north; animism having its chief abode in the forest belt; totemism, its chief sway among the hunter tribes that inhabited the country near the chain of the great lakes; serpent worship in the middle district; sun worship among the southern tribes, and an advanced stage of the nature worship among the civilized races of the southwest.

7. In reference to the geography of the religion of the Mound-builders, we conclude that the key is found in the physical environment. If among them there was a system illustrating the stages through which religion passes on its way to the higher historic faiths, this corresponded to the grades of social status, progress and geographical districts among the Mound-builders, and is to be studied in the material relics and tokens which are

to be found in the different districts. The picture which is presented by the larger map is concentrated into a smaller compass, the different forms of nature worship having embodied themselves in the works and relics of this mysterious people. Here then we have a schedule by which we may classify the different systems as they appear before us. Recognizing the various aboriginal religions in the different districts, we find in them the various phases of nature worship, and so can follow that worship through its different stages.

The order of succession in the line of growth, would be about as follows: We find a trace of animism predominating among the wild tribes, which consisted in giving a soul to everything, but this prevailing among the Mound-builders led them to take great care in erecting burial mounds and in depositing relics in them.

The same animal worship that led the native tribes to the recog-



Fig. 1—Mound on the Iowa River.

nition of the animals as their divinities led the Mound-builders to erect animal effigies on the soil. The system of sun worship which led the agriculturist to regard the sun as his great divinity would lead the Mound-builders to embody the sun symbols in their works. The system which led the civilized races to erect vast pyramids of stones and consecrate shrines to the sun divinity on the summit, induced the Mound-builders to erect their earth-works in the shape of the pyramids and place images upon the summits. These different phases of nature worship only illustrate the law of parallel development, a law which prevailed in prehistoric tribes as well as in historic. We are, however, to remember that there are no hard and fast lines by which these systems were separated, for they were blended together everywhere, the only difference being that one system was more prominent than the other. We take the different districts and learn from the works and relics that these embodied the religions of the Mound-builders, but at the same time see the shading of one into the other, and avoid making the divisions arbitrary.

I. Let us take the system of animism. This, in the larger field and among the living races, was the religion of the savages and belonged to the lowest stages of human development. Ani-

mism prevailed among the Mound-builders. Among them it was also the lowest form of religion. Remains of it are, to be sure, occasionally seen among the higher stages, but it was, nevertheless, a superstition of the savages. The essence of animism consisted in ascribing a soul to everything, and making the soul of material things about as important as the human soul. The savage, when he buried the body of the dead, deposited the various belongings with the body, for he thought that the spirit would use the weapons and relics in the land of the shades. With the Mound-builders the same superstition prevailed, but with them it was often the custom to break the relics in order to let out the soul. It was to the same superstition that chambers and vaults, resembling the houses and tents of the chiefs, were left in the center of the mounds and that the bodies were placed inside these vaults. The thought was that the spirit remained; every individual having a double lodge, one before death and the other to remain inhabited after death.

We give a series of cuts which illustrate the points referred



Fig. 2.—Mound near East Dubuque.

to. It will be noticed that in each of these the mound contains a chamber, and in the chamber are skeletons, and with the skeletons are relics which were used in the life-time; the idea being that the soul needed the same after death. The first figure (see Fig. 1) illustrates a mound situated on the Iowa River, a region where hunter races are known to have lived; in this mound is a stone vault having the shape of an arch, and in the vault a single skeleton, sitting, with a pottery vessel by its side. The next (see Figs. 2 and 5) represents a mound situated on a high bluff on the Mississippi River in East Dubuque. In this mound was a cell divided into three apartments; in the central apartment were eight skeletons sitting in a circle, while in the center of the circle was a drinking vessel made of a sea shell; the other cells are said to have contained chocolate-colored dust, which had a very offensive odor. The whole chamber was covered with a layer of poles or logs, above which were several layers of cement, made partly of lime. Another figure (see Fig. 3) represents a burial mound containing a chamber, in the bottom of which were several skeletons, a top covering of sand, a layer of clay, a layer of hard clay mixed with ashes, and a layer of mortar over the bones. This mound was in

Crawford County, Wisconsin, in the region of the effigy mounds. Another figure (see Fig. 4) represents a chambered mound in Missouri. The vault in this mound was rectangular, and was built and was laid up with stones very much like a modern building, but has a passage-way at the side which reminds us of the European cists or dolmens. It is a remarkable specimen of the handiwork of the Mound-builders. Whether these different chambers or vaults can be regarded as representing the houses of the Mound-builders is a question; but the fact that they are in the burial mounds, and so many of them contain relics and remains, would indicate that such was the case.

We have said that burial mounds of hunter tribes were generally stratified. We find, however, chambered mounds containing pottery vessels near the heads, as though there was an association of the spirit with the vessel. We find also groups of lodge circles on the sites of villages, but within the circles are bodies and relics, giving the idea that they were buried within the lodge. It was the custom of certain tribes to bury the body on the very spot where life had departed. The tent and its furniture and

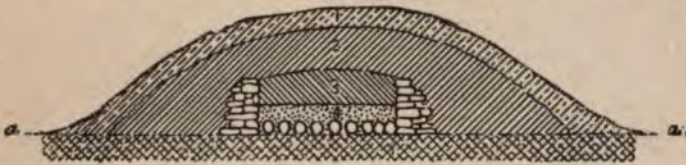


Fig. 5.—Mound in Crawford County, Wisconsin.

equipments were either burned or removed, but the body remained where it was. May we not ascribe these lodge circles to the same superstition? It was the custom, also, of other tribes to bury the body in the very attitude which it assumed in "*articulo mortis*". May not this explain the peculiar attitude of some of the bodies found in the tops of the mounds, where the face rests upon the hands, the body on the sides with the knees drawn to the chin? It was the custom of the Dakota tribes to remove the sod and expose the soil for the sacred rites of certain feasts, as the Master of Life was supposed to dwell in the soil. The sacred pipes and other emblems were placed near the fresh earth, as if to be offered to the spirit which dwelt there. May not this same superstition, that the soul or spirit of life was in the soil, account for the burial customs which were embodied in the mound? The same punctillious care over the details of burial was observed in prehistoric times that is now seen in the sacred ceremonies of the modern historic tribes. We cannot dwell upon this subject, but, doubtless, if we understood the customs of the Mound-builders better, we should find that there was not a single item which did not have its special significance. Great variety is, to be sure, manifested in the burial mounds,

Some contain relics, the very relics which had been used during the life of the deceased; the bodies of children being covered with bone beads, the very beads that had been worn as necklaces and wristlets; the bodies of warriors being attended by the arrows, axes, spear heads, badges, gorgets and ornaments which

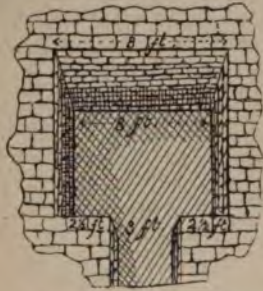


Fig. 4.—Chambered Mound.

they had carried through life; the bodies of chiefs being attended with pipes, spool ornaments, pearl beads and many other precious relics, which were their personal belongings. Vases filled with sweetmeats were sometimes buried near the children; pottery vessels and domestic utensils near the heads of females, and brooding ornaments or bird-shaped relics, used as the signs of maternity. Even tender fabrics, such as cloth woven from hemp, feather robes, coverings, made from the hair of the rabbit, delicate needles made from

bone and copper, spool ornaments made from wood, covered with copper or silver; in fact, all articles that made up the toilet of women or furnished equipments for men, or were playthings of children, were deposited at times in the mounds, not as offerings to the sun divinity, nor the serpent or fire, but as gifts or possessions to which the spirit of the dead had a right.

II. We now come to the second form of nature worship. This prevailed chiefly among the Mound-builders, though we sometimes recognize it among living tribes. It is the system of animal worship—the normal cult of hunter tribes. According to this system animals were frequently regarded as divinities. They were the ancestors of the clans, as well as their protectors, and gave their names to the clans. This system prevailed among the northern and eastern tribes, such as the Iroquois, Algonquins, Chippeways or Objibways, and, to a certain extent, the Dakotas,



Fig. 5.—Skeletons at East Dubuque.

though among the latter tribe it was greatly modified. It prevailed especially through the northern districts and along the chain of great lakes. Its peculiarity was that the people were not permitted to eat the flesh of the animal whose emblem they bore, nor were they permitted even to marry into the clan of the same animal name; a most remarkable system when we consider its effect upon the details of society and its influence in the tribal organization. The same system prevailed on the northwest coast, but it was here modified by the presence of human images

carved into genealogical trees, with the thunder-bird generally surmounting the column.

This system prevailed among the Mound-builders, especially in the northern districts. It was embodied in the effigies which are so numerous in the State of Wisconsin, but was also exercised by those people who have left so many animal figures made in effigy from standing stones which are found in Dakota. Descriptions of these effigies have been given by the author in the book on "Emblematic Mounds." Other specimens have been discovered since the volume was published. We maintain that there were three specific uses made of these effigies—the same uses which may be recognized in the totem posts of the northwest coast. They are as follows:

1. The perpetuity of the clan name. In the totem posts the clan name was mingled with the family history, but generally surmounting the column, the genealogical record of the family



Fig. 6.—Totems in Wisconsin.

being contained in the elaborate carvings found below. They might be called ancestor posts, for the name or image of each ancestor was given, a great effort being made to extend the genealogical line as far as possible. This same use of animal figures as tribal or clan signs, designed to represent the clan names, may be recognized in some of the old deeds which were given by the Iroquois to the whites.* Here the bear, the turkey and the wolf are drawn on paper to signify the clan emblem of the chief. The same custom has been recognized in the emblematic mounds, with this difference: instead of being written on paper or carved in wood, in this case the totems were moulded into earth-works; massive effigies of eagles, swallows, wolves, squirrels, bears, panthers, turtles, coons, buffaloes and other animals, and having been placed upon the soil to mark the habitat of the clans. They served the purpose, because they were on the hill-tops as well as in the valleys, and marked not only the sites of villages, but the game drives, the sacrificial places, the dance grounds and council houses of the clans. See Fig. 6.

2. The protective power of the totems is to be noticed. On the northwest coast the houses are sometimes furnished with

*See Documentary History of New York, Vol. II.

figures of whales, serpents and other animals. In some cases the entrance to the house is through the body of a fish; other houses have the image of the thunder-bird, with spread wings, placed over the doorway; the entrance of the house being under the body and between the wings. The same custom was common among the Mandans and other tribes of the prairies; they painted upon the outsides of their tents the figures of a deer or elk, making the opening to the tent through the body of the animal. We have noticed also among the effigy mounds that figures of the squirrels, panthers and wolves were placed at the entrance-way to the villages, so placed as to give the idea that they were designed to protect the villages. In all such cases they were the clan emblems. We have also noticed that the clan emblems were placed near the game drives, as if the protection of the clan divinity was invoked by the hunter. Some times the clan emblem would be placed at a distance on a hilltop above the village, giving the idea that there was an overshadowing presence. A favorite custom was to seize upon some cliff, or ridge, or knob of land which had a resemblance to the clan emblem and there place the effigy, as if there were a double protection in this: animism and totemism conspiring to strengthen the fancy. See Fig. 7.

3. The mythologic character of the totems is to be noticed. On the northwest coast the great myth bearers are the totem posts. We learn from Mr. James Deans* that the myths of the people were carved into the vacant spaces upon the posts, and that it was the ambition of the people to perpetuate as many myths as possible.



Fig. 7.—Turtle Totem.

The hideous masks which are so common in the same region were also designed to be myth bearers. These masks served the same purpose as buffalo-heads and elk-horns did among the Dakotas. They helped to carry out the semblances of the animals which were assumed by dancers at the great feasts, the buffalo dance and the elk dance being characterized by imitations of the attitudes of the animals. The effigies were also myth bearers. Groups of effigies are found which contain all the animals that were native to the region, closely associated with human figures (see Fig. 8), together with the attitudes and relative positions, giving the idea that there was a myth contained in them.

4. The totems also served a part in the pictographs. One fact illustrates this: The Osages have a secret order in which traditions are preserved by symbols tattooed upon the throat and chest.† One of these traditional pictographs is as follows: At the top

*American Antiquarian. Article by James Deans, Vol. XIII., No. IV.
 †Sixth Annual Report of Bureau of Ethnology, page 378, "Osage Traditions," by Rev. J. O. Dorsey.

we see a tree near a river, called the tree of life; just under the river we see a large star, at the left the morning star, and next are six stars, then the evening star; beneath these are seven stars, or the pleides; below these the moon on the left, the sun on the right, between them a peace pipe and a hatchet; below these are the four upper worlds, represented by four parallel lines,



Fig. 8.—Myth Bearer of the Dakotas.

a bird is seen hovering over the four worlds. The object of the tradition or chart was to show how the people ascended from the lower worlds and obtained human souls when they had long been in the body of birds and animals. The Osages say: "We do not believe that our ancestors were really animals or birds; these things are only symbols of something higher." Mr. Dorsey also says: "The Iowas have social divisions and per-

sonal names of mythical persons and sacred songs, but these are in the Winnebago language." He says: "Aside from traditions even the taboos and the names of the gentes and the phratries are objects of mysterious reverence, and such names are never used in ordinary conversation." We take it for granted that the totems of the Mound-builders were also as thoroughly subjects of reverence and that there was much secrecy in reference to them.

There were probably secret societies and mysteries among the Mound-builders, and it would require initiation on our part to understand the symbols which have perpetuated the myths and traditions as much as if they were hieroglyphics and we were without the key. The subject of totemism is very complicated, but was prevalent in prehistoric times as one of the wide-spread systems of religion.

5. Another phase of totemism was that which connected itself with various objects of nature—trees, rocks, caves, rivers. It was thought that invisible spirits haunted every dark and shadowy place. The caves were their chief abode; the cliffs were also filled with an invisible presence. Every rock or tree of an unusual shape was the abode of a spirit, especially if there was any resemblance in the shape to any human or animal form. It was owing to this superstition, that gave a soul to every thing,



Fig. 9.—Myth Bearer from a Cave in Wisconsin.

that so many double images are found in the Mound-builders' territory. The image of the serpent, of the lizard, of the turtle, was recognized in the bluff or rock or island or stream; and the mound resembling the same creature was placed above the bluff to show that the resemblance had been recognized. Totemism, then, was not confined to the savages who roamed through the dark forest of the North, nor to those Northern tribes which made their abode upon the prairies, and left traces of themselves in the idols and images and foot tracks and inscriptions, which are now such objects of wonder, but it extended far to the southward, and was mingled with the more advanced systems which prevailed in this region.



Fig. 10.—Alligator Mound in Ohio.

This was totemism. We conclude that it bore an important part in the Mound-builder's life. It was very subtle and obscure, yet if we recognize it among the living tribes we may also recognize it among those who have passed away.

6. Under the head of totemistic symbols we shall place those remarkable works, the great serpent and alligator mounds. These closely correspond to the shape of the cliff or hill on which they are placed. They must be regarded as sacred or religious works, as they probably had a mythologic significance. The alligator mound is situated upon a high and beautifully rounded spot of land, which projects boldly into the beautiful valley of the Raccoon Creek. The hill is 150 or 200 feet high. It is so regular as almost to induce the belief that it has been artificially rounded. It commands a view of the valley for eight or ten miles, and is by far the most conspicuous point within that limit. Immediately opposite, and less than a half mile distant, is a

large and beautiful circular work; to the right, three-fourths of a mile distant, is a fortified hill, and upon the opposite side of the valley is another intrenched hill. The great circles at Newark, which we have designated as village inclosures, are but a few miles away and would be distinctly visible were there no intervening forest. Squier and Davis say: "The effigy is called the alligator, though it closely resembles the lizard. The total length is about 250 feet, breadth of body 40 feet, length of legs 36 feet. The paws are broader than the legs, as if the spread of the toes had been imitated. The head, shoulders and rump are elevated into knobs and so made prominent. Near the effigy is a circular mound covered with stones, which have been much burned. This has been denominated an altar. Leading to it from the top of the effigy is a graded way ten feet broad. It seems more than possible that this singular effigy had its origin in the superstition of its makers. It was perhaps the high place where sacrifices were made on extraordinary occasions, and where the ancient people gathered to celebrate the rites of their unknown worship. The valley which it overlooks abounds in traces of a remote people and seems to have been one of the centers of ancient population."* See Fig. 10.

In reference to the altars so called, we may say: "One is to be distinctly observed in the inclosure connected with the great serpent and another in connection with the cross near Tarlton, and still another in connection with the bird effigy at Newark." This bird effigy is also worthy of notice; it was in the centre of the great circle, and seems to have been erected for religious purposes, like the great circles of England, and in the squares of Peru and Mexico, enclosures within which were erected the shrines of the gods of the ancient worship and altars of ancient religion. These may have been spots consecrated by tradition, or rendered remarkable as the scene of some extraordinary event, invested with reverence and regarded with superstition; tabooed to the multitude, but full of significance to the priesthood. They may have embraced consecrated graves, and guarded as they were by animal totems, have been places where mysterious rites were practiced in honor of the great totemistic divinity.

III. The third form of nature worship we shall mention, is the one which consisted in the use of fire. It might be called fire worship, although it has more of the nature of a superstition than of worship. This custom, of using fire as an aid to devotion, was not peculiar to the Mound-builders, for it was common in all parts of the world; the suttee burning of India being the most noted. In Europe cremation or burial in fire was a custom peculiar to the bronze age, and indicated an advanced stage of progress; the relics which are found in the fire-beds being

*Ancient Monuments, Page 101.

chiefly of bronze and many of them highly wrought. In this country the fire cult was, perhaps, peculiar to the copper age; at least, the larger portion of the relics which are found in the fire beds are copper. As to the extent of this cult, we may say it was prevalent among the native tribes both of the Mississippi Valley and of the far West, and, in some cases, appeared upon the northwest coast. There are instances where cremation or burning of human bodies was practiced which, in many of its features resembled the suttee burning. The custom of keeping a perpetual fire was one phase of this fire cult. This seems to have been general among the tribes of the Mississippi Valley, so well as among the civilized races of the southwest. It was a superstition of the Muscogees, that if the fire went out in the temple, the nation ceased to exist. The ceremony of creating new fire was the most sacred and important among the Aztecs. Charlevoix says that fire among the Muscogees was kept burning in honor of the sun. It was fed with billets or sticks of wood so arranged as to radiate from a common center, like the spokes of a wheel.* Temples were erected for this purpose, and in them the bones of the dead chieftans were also kept. Tonti says of the Taensas: "The temple was, like the cabin of the chief, about forty feet square; the wall fourteen feet high; the roof doom-shaped; within it an altar, and the fire was kept up by the old priests night and day. The temples were quite common throughout the region known as Florida, extending from Arkansas to the southern point of the Peninsula. They were found in many of the villages, and great care was exercised that the fire within them should be perpetual. The temples finally disappear, and, in their stead, we find the hot house or rotunda or council houses, such as are known to the Cherokees. The time came when a temple was no longer spoken of, though the rotunda embodied something of its sacredness. It was within this rotunda that the first fire was kindled; and it was here, under the care of the priests, that the perpetual fire was kept burning. A very interesting rite was observed annually, when all fires of the tribes were put out and kindled anew by the fire generator. This took place on the occasion of the feast of the first fruits on the third day. On that day, as the sun declined, universal silence reigned among the people. The chief priests then took a dry piece of wood, and, with the fire generator, whirled it rapidly. The wood soon began to smoke; the fire was collected in an earthen dish and taken to the altar. Its appearance brought joy to the hearts of the people. The women arranged themselves around the public square, where the altar was, each receiving a portion of the new and pure flame. They then prepared, in the best manner, the new corn and fruits, and made a feast in the square, in

*Charlevoix Letters, page 113.

which the people were assembled and with which the men regaled themselves."*

As to the prevalence of the fire cult among the Mound-builders, it was not confined to the southern districts, where the rotundas were and where sun worship was so prominent. At least one stage of this fire cult, that which consisted in cremation of the bodies, appeared in the regions north of the Ohio River and was quite common.

We shall see the extent of this custom if we draw a line diagonally from the region about Davenport, Iowa, through Illinois, Indiana, Southern Ohio, West Virginia and North Carolina. We shall find that the line strikes the majority of the fire beds and altar mounds. What is remarkable, also, along this line are found those relics which have been associated with the fire cult of Ohio, many of them having been placed upon the altars and offered either to the sun divinity or to the fire. Among these relics we may mention as chief the so-called Mound-builder pipe. This was a pipe with a curved base and a carved bowl, the bowl being an imitation of some animal native to the region. The pipes are very numerous in the vicinity of Davenport, Iowa. The animals imitated are very nearly the same as those represented in the Ohio pipes—the lizard, the turtle, the toad, the howling wolf, the squirrel, ground-hog and bird. One pipe has the shape of the serpent wound about the bowl, an exact counterpart of the serpent pipe which was found upon the altar in Clarke's Works in Southern Ohio. Similar pipes, carved in imitation of animals—badgers, toads and birds—have also been found upon the Illinois River, in Cass County, and upon the White River, in Indiana, showing that the people who occupied the stations were acquainted with the same animals and accustomed to use the same kind of pipe. The Davenport pipes are not so skillfully wrought as the Ohio pipes, but have the same general pattern.

They were not all of them found in the fire beds, for many of them were discovered in mounds where the fire had gone out. These mounds are situated along the banks of the Mississippi River, from the vicinity of Muscatine through Toolsboro, Moline, Rock Island and Davenport, the most remarkable specimens having been found on the Cook farm, just south of the latter city. There were fire beds and altars in this group, but even here, as in the case of other mounds where there was no fire, the pipes were placed near the bones, which were still well preserved, and none of them showed traces of fire.

Let us here notice the difference between the tokens in the two sections. 1. In Ohio nearly all Mound-builder pipes, including the finely wrought serpent pipes and the other animal pipes, had been placed upon the altar and subjected to the

*Journal of American Folk-Lore, Vol. IV, No. XIV. Social Organization of The Sivean, by J. O. Dorsey, page 245

action of fire and so badly burned that they were broken into fragments. In western pipes they were unbroken. 2. Another difference is noticeable. While there were as many copper relics in the Davenport mounds, as in the Ohio mounds, they were mainly copper axes, many of which were wrapped in cloth and placed with the bodies. Fig. 11. Farquharson calls them ceremonial axes. There were no signs of use in them. They varied in size and shape, some of them being flat, others flat on one side, convex on other; still others convex on both sides. The cloth in which they were wrapped was well preserved by action of the copper; it was made of hemp and resembled burlap. In the Ohio mounds no such copper axes have been found. Copper beads and copper chisels are numerous, however, and beads and pendants are as common as in Davenport. 3. The characteristic



Fig. 11.—Copper Axes and Pottery Vessels from Toolsboro.

relic of the altar mounds of Ohio is the copper spool ornament. In the Davenport mound there were very few spool ornaments, but awls and needles were quite numerous; copper beads and pendants were common. Many of these were found in various localities, both on the Scioto River and in the Turner group. 4. Another point of difference between the two localities is the shape of the altars. Those in the Davenport mounds are never paved as in the Ohio mounds, the altars in the Davenport mounds being merely round heaps of stones or columns. Near these the bodies were placed, but the relics were beside the bodies and not upon the altars. In one case a few long shin-bones were crossed upon the top of the altar and others found leaning against the side of the stones, but no relics. The bodies do not seem to be cremated, but buried in the fire. The relics, including pipes, copper axes, copper awls, and obsidian arrows, were placed at the side or head of the body, but were rarely burned.

5. Another point of difference is that burials and cremations

in Ohio were made before the mound was erected, while in the Davenport mounds, if there was any cremating, it took place at the time of burial, and the fire was smothered in the process of mound building. Prof. Putnam explored a burial mound on the Scioto River, which was situated in the great circle in the eastern corner of the great square. It was 160 feet long, 90 feet wide and 10 feet high. It contained a dozen burial chambers made from logs. In these chambers the bodies were placed evidently wrapped in garments. With the bodies were buried various objects, such as copper-plates, ear-rings, shell beads and flint knives, and on the breast of one skeleton was a thin copper plate or ornament. In some of the chambers there were evidences of fire as if the bodies had been burned on the spot. Prof. Putnam's opinion is that the burials and cremations were made before the mound was erected, several burnings having occurred in one spot. The mound was erected over all, and was finished with a covering of gravel and with a border of loose



Fig. 12—Mound near Davenport.

stones. This was the usual manner of erecting mounds among the fire worshippers. Squier and Davis in 1840 dug into the same mound and found a skeleton, with a copper plate and a pipe. They also found in other mounds altars in which bodies had been burned, but the ashes had been removed, a deposit of the ashes being found at one side of the altar. 6. The intense heat to which the relics were subjected in the Ohio mounds as compared to the partial burning in the Iowa mounds is to be noticed. Prof. Putnam says that in the Turner group the fire was intense, and the iron masses were exposed to great heat on the altar and were more or less oxydized. Squier and Davis say that the copper relics found in the Ohio altars were often fused together, and the pipes of the Mound-builders were all of them broken.

The question here arises, who were these fire-worshippers? Were they the Cherokees, who survive in the mountains of Tennessee? or were they the Dakotas, who so lately roam the prairies in the far West? or were they some unknown people? Our answer to this question is, that no particular tribe can be said to represent the fire worshippers, for this cult prevailed among nearly all the different classes of Mound-builders. Mounds containing fire beds have been found in Wisconsin, Iowa, Illinois, Indiana, Ohio, West Virginia, East Tennessee, North Carolina, and the

Gulf States. In Wisconsin the fire beds are without relics; in Iowa they contain relics, but they are unburned; in Ohio they contain many relics which seem to have been thrown upon the altars as offerings; in East Tennessee there are mounds which contain fire beds that resemble those of Ohio; in West Tennessee the mounds contain traces of fire, but no altars or fire beds. The relics are unburned. These latter mounds are said to have been built in the shape of cones, the cists containing the bodies being arranged in a circle about a central space, but each tier being drawn in so as to make a cone. The fire was in the center of the circle; outside the circle, near the heads, were pottery vessels, which made a circle of themselves, the whole arrangement indicating that there was not only a fire cult here, but that it was associated with sun worship, the superstition about the soul being embodied in the pottery vessels, the three forms of nature worship being embodied together in one mound.

We call attention to the cuts which represent the fire cult of the different districts. Fig 12 represents a mound on the Cook farm near Davenport, one of the group from which so many relics were taken. This mound contained no chamber, but in its place were two strata of limestone, but over these a series of

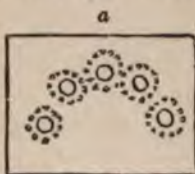


Fig. 13.—Crescent and Circle.

skulls so arranged as to form a crescent, around each skull was a circle of stones. See Fig. 13. With the skeletons in the mound were two copper axes, two hemispheres of copper and one of silver, and several arrows. In an adjoining mound were two skeletons surrounded by a circle of red stones; the skeletons were under a layer of ashes and with them were several copper axes, copper beads, two carved stone pipes, one in the shape of a ground hog. The difference in the mounds will be noticed. In the latter mounds there were indications of fire worship and sun worship. Fig. 11 represents the vase and copper axes taken from the mound at Toolsboro. They exhibit an advanced stage of art and seem to indicate that the Iowa Mound-builders did not fall much behind the Ohio Mound-builders in this respect.

The Moquis practice a modified form of fire worship. No other living tribe preserves the cult to the same degree, and yet there is no evidence that the Moquis were ever Mound-builders. Two theories might be entertained; one, that there was a progress in the fire worship; another, that there was a decline, and yet there is no surviving tribe in which we recognize the fire cult of the ancient times.

We can say that while the tokens of the fire worshipers, such as fire beds, copper relics and Mound-builders' pipes, are found scattered as far as the effigies on the north and the pyramids at the south, these three classes of tokens, one indicating ani-

mal worship, the other fire worship, and the third sun worship, are crowded into the single State of Illinois, and constitute the tokens of the middle Mississippi district. We notice also that the relics indicate three different modes of life or occupations. Among the effigy mounds are many copper relics, but mainly spear-heads, arrow-heads, chisels, knives, such as would be used by hunters. The relics in the fire beds and burial grounds near Davenport are axes, awls and needles; no copper spear-heads or knives. The relics south of these fire-beds, especially those near the Cahokia mound, are mainly agricultural tools—spades, hoes, picks. The pottery of the three localities are in contrast, showing that three different stages of art and different domestic tastes in the three localities. The Mound-builder pipes are not found either among the effigies or pyramids, and seem to be confined to this narrow belt between the two.

Still the fire cult must have been early in the Mound-builder period. We notice both in the Mississippi Valley and upon the Ohio River that the fire beds and altars are at the bottom of the mounds. In very many of the mounds there are layers of bodies, some of which were recumbent, others in various postures, but either without relics or having relics of a ruder or more modern character. These may have been deposited by various Indian tribes, such as the Sacs and Foxes, Pottawattamies and Illinois. Mound-builder pipes, copper axes and other relics are always found as low down as the surface of the soil. They are not always in fire beds, but frequently there will be a hard floor and a saucer-like basin below the bodies, and above them piles of wood or logs, conveying the idea that the intention was to cremate the body, but the fire had gone out before the wood had been burned. The descriptions given by all the explorers of the mounds of this vicinity are always to this effect.*

IV. The prevalence of the moon cult will next be considered. The moon cult was evidently associated with sun-worship, and prevailed in the district where the works of the sun-worshippers are so numerous, namely: Southern Ohio. The evidences of this are as follows: 1. In this district we find earth-works, which seem to be symbolical of the moon; their shape, location and probable use show this. They are crescent shape, but are sometimes grouped around circles, and were probably used in connection with dances and feasts, which were sacred to the moon. We take for illustration the works which are called the Junction Group, which is described by Squier and Davis. This group is situated on Paint Creek,, two and one half miles southwest of

*See descriptions by Rev. G. A. Gass, C. E. Harrison, W. H. Pratt, C. H. Preeston, Rev. A. Bloomer, A. F. Tiffany, R. J. Farqueson; also proceedings of Davenport Academy of Science, Vol. I, page 98 to 143; Vol. II, pages 141 and 289; Vol. III., page 135; Vol. V., page 37; also *American Antiquarian*.

the town of Chillicothe. It consists of four circles, three crescents, two square works and four mounds. The eastern enclosure is the principal one, and, in common with all the rest, consists of a wall three feet high with an interior ditch. It is two hundred and forty feet square; the angles much curved, giving it very nearly the form of a circle. The area bounded by the ditch is an accurate square of one hundred and sixty feet side, and is entered from the south by a gateway twenty-five feet wide. To the southwest of this work, and one hundred and fifty feet distant, is a small mound, inclosed by a ditch and wall, with a gateway opening to it from the north. The ditch dips from the base of the mound, which is three feet high by thirty feet base.



Fig. 14.—Junction Group.

Almost touching the circle enclosing the mound is the horn of a crescent work, having a chord of one hundred and thirty-two feet. Sixty-six feet distant, in the same direction, is still another crescent, which terminates in a mound of sacrifice, seven feet high by forty-five feet base, which commands the entire group of works. This mound was opened and found to contain an altar; such an altar as is peculiar to mounds devoted to religious purposes. Upon it were a number of relics clearly pertaining to the Mound-builders. In reference to these works Squier and Davis say: "That they were not designed for defense is obvious; and that they were devoted to religious rites is more than probable. Similar groups are frequent. Indeed, small circles resembling these here represented, are by far the most numerous class found in the Scioto Valley."

Next is the Blackwater group. This is situated on the right bank of the Scioto, eight miles above Chillicothe. It is especi-

ally remarkable for its singular parallels (A and B of the plan). Each of these is 750 feet long by 60 broad. A gateway opens from the southern parallel to the east. They were in cleared ground and have been cultivated for twenty years. The ground embraced in the semi-circular works (C and B) is reduced several feet below the plain on which they are located. The resemblance between this group and the one just described will be noticed. 1. The group is arranged in an irregular circle. 2. There are three crescents in the group, each of them opening into the central space. 3. There is a small circle with a ditch and mound enclosed, the usual sun symbol of this region. 4. A conical burial mound is found near one of the crescents. 5. The location of the group is quite similar to that of the Junction group, being in a high place above the river, this one being some two or three miles from Hopeton, the Junction group being two miles southwest of Chillicothe. Both of them occupy the third terrace and overlook the other works in the vicinity.

Another place where the crescent-shaped wall is found is in the township of Seal, Pike County. The large work and the small circles would attract especial attention. The larger enclosures, situated on the terrace above the bottom land, consist of the usual figures, the square and circle, the square measuring 800 feet and the circle 1,050 feet, the connection by parallel walls, 475 feet. In the small works we have the square, the circle, the ellipse, separate and in combination, and the crescent, all of them arranged as usual around an open space. From the small circle (D) a wall leads off along the brow of the terrace. It is probable that at the other end of this wall there was another small circle which has been destroyed by the wasting of the bank. The river now runs at a distance, but it seems to have



Fig. 15.—Blackwater Group.

worn the terrace away in several places before it receded. This shows the antiquity of the works. Nothing can surpass the symmetry of the small work (A). The other enclosures are perfect figures of their kind. The walls of the square coincide with the cardinal points of the compass, a fact which has great importance in connection with this form of nature worship.



Fig. 16.—Symbolic Works in Seal Township, Ohio.

The object of these works is unknown, but our theory is that the small figures mark a place of assembly for the clan which resided in the square enclosure, a peculiar symbolism being embodied in them. It may be that there was a secret order which perpetuated the religion of the people and which ruled over their feasts, the group of mounds being the place where their mysteries were celebrated.

There are various crescent-shaped walls, near certain forts in Southern Ohio, which we take to be symbolic, and imagine that there was a protective power in the symbol. An illustration of this is found at Massie's Creek, seven miles from Xenia. There we find a wall of stone surrounding an inclosure. This wall, near the gateway, is ten feet high, with thirty feet base. Just outside the gateways are the stone mounds, so situated as to guard the entrances; outside the stone mounds are four short, crescent-shaped stone walls, each about three feet in height, the four making an outwork to the fort, on the side toward the highlands. Our conjecture is that these were in the shape of crescents, as the walls at Fort Ancient were in the shape of serpents,—the superstition being that the symbol itself was a source of safety. There are several other forts which have crescent-shaped entrances, one being at Bourneville, a region where the sun worshippers dwelt and had numerous villages.

Another evidence is to be found in the many crescent-shaped walls, near square enclosures, whose use is unknown except as symbols of the moon. There are three such walls near a square enclosure, just opposite the stone fort on Massie's Creek, evidently connected with that fort.*

There are crescent-shaped walls also within the enclosures at Marietta, as well as at the new fort at Fort Ancient; also at Liberty Township. The crescent-shaped wall, near the bird effigy in the large circle at Newark, is to be noticed. These fragmentary walls may have had a practical use as well as symbolic, but the fact that they are so frequently associated with the square and circle, and so peculiarly related to those figures, would indicate that they were symbols of the moon. It would seem from the study of the enclosures that these walls mark the place of religious assemblies or the residences of the priests or medicine men, and that they correspond to the sweat-house or rotunda of the southern tribes and to the estufas of the Pueblos though the crescents themselves may have been only the seats of the chiefs and prominent men as they gathered around the sacred fire, which sent up its spiral column in the centre of the temple, which was consecrated to the sun.

The work near Bainbridge, Ross County, situated on the Valley of Paint Creek, affords another of the thousand various combinations. It can only be explained in connection with the superstition of the builders. It could answer no good purpose for protection, or subserve any useful purpose, such as the limits of fields, or boundaries of villages.

There is another point to be considered in connection with the earth-works in Southern Ohio. Many of them have exactly the same shape with the relics and badges which are taken from the

*See Ancient Monuments, page 94. Plate XXXIV.

mounds, the two together showing that the moon cult must have been dominant. Among these we may mention those crescent-shaped altars, in which the silvery mica is supposed to have reflected the light of the moon, such as was found at Mound City, and the crescent-shaped pavement, near the great mound at Circleville, both of which were evidently symbolic. We recognize the counterparts to these in the various maces and badges and leaf-shaped relics. These maces are frequently crescent-shaped, some of them double crescents. They may have been placed at the heads of staffs and borne by medicine men or priests at the head of processions at their sacred feasts, but they show in their shape that there was a symbolism among the Mound-builders in which the moon-shaped crescent was a prominent figure. We sometimes recognize in the maces the sun circle, but the crescent was more common. What is most singular about the earthworks and relics is, that the same shapes are recognized both in the altars themselves and the relics contained within them.



Fig. 17.—Altar of Leaf-shaped Implements.

We may say in this connection that an altar was found upon the Illinois river, in Cass County, which consisted of several layers of leaf-shaped implements, which were almost the exact counterpart of one found in Mound City, near Chillicothe, Ohio. The body on this altar was not burned. There was upon the breast a copper plate in the form of a crescent, shell gorgets, and other relics. Dr Snyder says the mound gave evidence of a water cult; but the resemblance to the Ohio mounds would show that it was connected with the fire cult. In reference to the shape of these flint relics and their religious significance, we may say that the exploring party led by Mr. Warren K. Moorehead has recently come upon a remarkable find, which consisted of 7,300 flint relics, placed in an oval bed, at the bottom of an elliptical mound. The shape of the altar and mound corresponded, though the axis of the stone heap trended west, while the mound itself was directly north and south. This fire bed is said to have been twenty feet wide by thirty feet long, and the flint relics which constituted the pavement varied from twelve to fifteen inches in length and five to eight inches in width, making the pavement something over a foot in depth. This find was upon the north fork of Paint Creek, in the group of mounds from which Squier

and Davis, many years ago, took so many valuable and curious relics, showing that the offerings which were placed upon the altar were in reality devoted to the moon as well as to the sun, the mound, the altar and the relics being combined in symbolizing the different phases of the moon. Our conclusion is that the moon cult was as prominent as the fire cult, and that both of these were associated in the minds of the sun-worshippers. They gave significance to the altars, the relics and the earthworks of this region. Proofs of all this are given in the fact that offerings were placed upon altars which were very carefully constructed, the shapes of the altars perhaps being symbolic. The fire was lighted until the offerings were consumed.

Squier and Davis speak of this when they describe the mounds in Mound City: Mound No. 1 showed traces of fire near the summit, which increased until the altar was reached. The relics found within the altar varied. In one they consisted of fragments of pottery, ornamented very tastefully, convex copper discs and a layer of silvery mica, in sheets overlapping each other, and above the layer a quantity of human bones.

Mound No. 2 contained an altar in the shape of a parallelogram of the utmost regularity. It measured at the base 8x10 feet, and at the top 4x6 feet, and was 18 inches high; dip of the basin 9 inches. Within the basin was a deposit of fine ashes, fragments of pottery and a few pearl and shell beads. This mound also contained an intruded burial, for at three feet below the surface two skeletons were found. With these skeletons were found implements of stone, horn and bone, as follows: Several hand-axes and gouges; beautiful chip of horn-stone, the size of one's hand; several knife handles made of deer's horn; an implement made from the shoulder-blade of a buffalo, and a notched instrument of bone, designed for distributing paint in lines on the faces of the warriors.

Mound No. 3 is egg-shaped; measured 140x60 feet, 11 feet high; contained four strata. At the base of this mound there was a double altar. The entire length of the bottom altar was not far from 60 feet; that of the upper was 15 feet. The dip of the first basin was 18 inches. Relics were found within the smaller basin. It was found that the one altar had been built and used for a time, and then another one built within this basin, the process having been repeated three times, the ridge forming the last altar having a basin 8 feet square, while the first altar was five times that size, or 40 feet in diameter. The relics found in this mound were numerous and valuable. They were as follows: A large number of spear-heads, quartz and garnet; an obsidian arrow-point, and other arrow-heads of limpid quartz. These had been so broken by the heat, that out of a bushel or two of fragments, only four specimens were recovered entirely. Among the copper relics were the following: Two copper

chisels, one measuring 6, the other 8 inches in length; twenty copper tubes or beads, one and a quarter inches long, three-eighths in diameter; two carved pipes were discovered, one in the shave of a toucan cut in white lime-stone; a large quantity of pottery, out of which two vases were restored.

Mound No. 7 was $17\frac{1}{2}$ feet in height, 90 feet base. It was composed of six different strata of soil and sand, and contained at its base a floor of clay or altar, at one side of which was a layer of silvery mica formed of round sheets, 10 inches or a foot in diameter, overlapping each other like the scales of a fish, which made a pavement in the shape of a crescent around the altar twenty feet long and five feet wide. The mound was very compact, required an immense amount of labor to excavate it. Squier and Davis say that the presence of the mica crescent renders it probable that the Mound-builders worshiped the moon and that this mound was erected with unknown rites to that luminary.

The personal ornaments which have been found indicate the same thing. Squier and Davis speak of discovering certain scrolls and discs made from sheets of silvery mica, which were perfect in their outline. These were perforated with a single hole, and were probably attached in some way to the dress. When placed together they make an ornament which reminds us of the celebrated "winged globe" or feathered disc, which was so common in Egypt and the East. The shell gorgets, which are so numerous at the south, represent the same symbols. These contain crescent-shaped figures in the center, surrounded by circles, with dots between the circles: the whole contained within four concentric rings; the number four symbolizing the four quarters of the sky, the dots symbolizing the stars, the small circles the sun and the crescent in the center the moon. These gorgets are never found in Ohio, but they show that the moon cult was associated with the solar cult among the Mound-builders of the south.

YEMA, OR VOTIVE PICTURES, IN JAPAN.

BY W. E. DERFOREST.

It seems strange that, while so much has been written about the two religions of Japan, and so many thousands of pictures of her beautiful temples and shrines have been scattered far and wide, nothing,* so far as the writer is aware, has been said about one of the most important features of these god-houses, *Yema*. They are votive pictures, hung up sometimes in the broad porches of the temples, and sometimes in open halls built expressly for this purpose. They not only tell at a glance, if we only knew how to read them, much of the history and customs of this country, but they afford, also, an open door through which we may look into the hearts of the people, and see for ourselves whether the estimate put upon their character by some writers is true.

These votive pictures came into use as follows: In ancient times departed warriors, whose brave deeds were held in remembrance, were honored by regular offerings of *sake* (Japanese whisky) and rice placed before their tablets and tombs. As the idea gained ground that their spirits hovered around their graves, it was deemed wise to provide, besides food, a number of spotless white horses, on which these canonized worthies might take their spiritual recreation. So it became the custom in wealthy Shintō shrines to keep one of these sacred animals. The people were taught to worship before this horse, and to expect the favor of the invisible rider just in proportion as they offered cash to supply the horse with beans.

There were many shrines, however, that could not afford to buy a white horse. So it was thought that the next best thing to do would be to get a picture of one, and, hanging it in the porch, teach the people to worship that. Hence the name *Ye-ma*, *picture-horse*, from *ye*, a picture, and *uma*, a horse.

The use of *Yema* was at first confined to the Shintō religion, but the Buddhist brethren took kindly to this picture-idea, and began to hang in the great, broad porches of their temples, pictures—not of horses, for that would have been too bold an ap-

*The place to look for a description of "Yema" would naturally be in "A Glimpse at the Art of Japan," by Jarves, in his long chapter on "Religious Art of Japan." But, aside from his altogether too warm praises of the seven gods of good luck, the wide subject is barely touched.

Mitford, in his "Tales of Old Japan," in one place speaks of "votive tablets, representing the famous gods and goddesses, heroes and heroines of old." He evidently refers to the "Yema."

propriation,* but of anything that manifested a desire of the heart, or signified a prayer. Sailors about to proceed on a voyage would vow a picture of their junk and the Rising Sun to *Kompira Sama*, and would hang it up in the nearest temple. Would-be warriors would bring a picture of some ancient hero, with fierce visage and naked sword, and place it side by side with the picture of the sacred horse. Would-be-mothers would bring their picture-prayer and offer it with the formula of words fixed for such occasions. Indeed, there is no desire of the human heart, from the pure and true, to the filthiest and most degrading, that may not be seen represented in these national picture galleries. So the word *Yema* long ago lost its primitive meaning, and has become a generic name for any and every picture hung up in either Shintō shrines or Buddhist temples. To describe all the *yema* in a single temple would make a volume † Only a few of those that it has been a pleasure to show to traveling friends can be noticed here.

There is every variety of *Yema* in a celebrated temple, *Amada Ike*, at Osaka. Swearing off from *sake* is not an uncommon picture. These temperance pledges take many forms, generally giving a view of the instruments with which the evil has been committed. One penitent has brought his *sake*-tub and cups, and, kneeling, vows to abstain. Another has simply brought his cup, with a firmly shut lock over it, and the key thrown away. These drinkers, having gone the way of the multitudes, have at last seen their mistake, and have recognized that there is no hope for them except as the gods give them strength to keep these vows.

Some people say that *sake*-drinking is not carried to excess in Japan, that the natives seldom are seen on the streets intoxicated, and that the number who become victims to intemperance are very few. To reply that such an opinion is founded on superficial observation, and to affirm that *sake* is one of the great curses of Japan, would probably be taken by many as a statement that a missionary might naturally make, and to some minds would have no weight whatever. It might be more convincing to some to say that the amount of rice converted into *sake* for the year 1879 was about 15,000,000 bushels. But stronger than official statements are these picture-pledges hanging here and there in the temples, silently pleading for Heaven's help to break from the power and ruin of *sake*. They speak with no uncertain voice concerning this people's lack of moral

*The Buddhists are by no means backward in taking from other religions anything that suits them. In Osaka but a few months ago, a priest was heard boldly reading to his audience the Sermon on the Mount, substituting the word "Shaka" for Jesus. Shaka says, "Blessed are the poor in spirit," etc. Also, quite recently, the head teacher of a large Buddhist school, a man who received his education mainly in Europe, told the United States Minister that he was reading our Bible on purpose to add to the sacred books of Buddha those parts that he liked.

†In Fukui, the city where Prof. Griffis lived, there is a little shrine on the mountain side, on one end of which, in a space about 10x12 feet, hang over 200 "Yema."

strength, especially if we take into account the spit-ball prayers that deface such pictures. These pledges are dotted with them. They mean that many, brought to poverty by the daily use of *sake*, have so little cash that they cannot afford even the cheap *Yema*-offering. So they chew a paper-prayer, and throw it at the picture that best expresses the desire of their hearts.

All pictures of this class are a voluntary and public confession on the part of those who hang them up, and of those who spit prayers at them, that they are victims to a dangerous appetite, from which they would gladly be free, if they only knew how. That they do not is evident from the writing on the sides of the pictures;—“*Respectfully offered. Abstinence from SAKE for five years.*” The pleasures of drinking are altogether too many to be sworn against for life, and so the help of the gods is asked for only a limited season. Most of these poor fellows need more help than they get long before their five years are up. At first, the strong feeling that prompted the prayer and the pledges carries the offerer along the right path for a few months. Full of superstition and dread of the gods and devils, few will dare, out and out, to break their vows. And yet after a year or two they are found at their cups without a scruple to mar their pleasure, and claiming that they have not broken their pledge. Their crafty way of dodging is, “I have kept my pledge one year. Four years are left. I will still keep the vow four full years, *but of days only.*” This makes eight years of days, leaving the nights free. So well are those nights improved that it is said that some regain their old habits with such irresistible force that the days too, are divided, and the pledge proportionately extended into sixteen years of sober forenoons, with the luxury of afternoons and nights off.

A former professor in West Point, who had smashed all his bottles *for life*, on seeing this *Yema* of the bowl and padlock; was so struck with its meaning that he tried to buy it of the priests of *Amada Ike*. But twenty-five dollars failed to purchase that which originally cost only about twenty-five cents.

Among these pictured confessions of sin is the gambler's pledge. Gambling is one of the great vices of Japan. Whether this passion is as strong here as it is in China is a matter of doubt, but certain it is that it possesses many a weak fellow like a demon of the worst sort. Only the gods can cast out such a devil. Believing that no human power can cure them of this habit, gamblers, who have an earnest desire to reform, betake themselves to the temples in the hope that heaven will be merciful, and save them from themselves. In this same *Amada Ike* hangs this touching *Yema*, in which the gambler has brought the dice and other tools that have been his ruin, and is seen vigorously using a hammer to grind them all to powder. His wife and two little ones (the artist has unfortunately omitted them) stand behind him with folded hands, pray-

ing, out of poverty and suffering, that the resolution now made may be kept, and thanking the gods for the new life that the husband and father has entered upon.

To a foreigner's eye those *Yema* that are the least expressive are perhaps the fullest of meaning when once understood. What can mean less to a sight-seer than a couple of Chinese characters, *kai shin*, *reformation*, over which stream from a heavenly cloud bright rays of glory? What significance would a foreigner attach to this character for *heart*, with a lock over it? These important *Yema* cannot be neglected by one who would know the Japanese. The offerer of one has asked the gods to save him henceforth from wine and women, as the characters on the frame read. The giver of the other publicly thanks the gods for granting him favor with somebody's wife. It looks simple enough—this woman's kneeling before a shrine in prayer. But she has made a vow that Christian communities would hardly care to see in print.

There are those who say that the Japanese are a fairly moral and pure people.* But if such observers would get enough of the language to learn the meaning of such *Yema* as these before they constitute themselves teachers about the character of this nation, they could not fail to come nearer the facts. Here is a land where it is the custom to hang up in the most public places these confessions of shame, these prayers of repentance, and these boasts of impurity. If the people themselves thus proclaim their own character, they surely have no need of foreign apologists. Without doubt, a few more years of advance into the manners of civilization will find everyone of these *yema* forbidden. And the class is by no means small.

Much more pleasant to see are the *Yema* dreamers. We feel at once as if we knew the full meaning of these pictures. Here are two taken from another Osaka Temple. One, while sleeping under his heavy mattress, sees foxes jumping with fearful leaps through the space above him. Tails and legs are straight out with the long leaps, and as they pass each other in the air their mouths open wide with fox laughter. Everybody

*Mitford, in his delightful *Tales of Old Japan*, says on p. 102, in a foot-note, "In spite of all that has been said by persons who have had no opportunity of associating and exchanging ideas with the educated men of Japan, I maintain that in no country is the public harlot more abhorred and looked down upon."

It is true that among the upper classes there are homes that have been guarded with such strictness that impurity is unknown. It is also true that the educated men of Japan, as a rule, in conversation with foreigners, cover up much that they know to be repulsive to Western Nations. The writer was told once by an educated Japanese that the above *yema* of the heart and padlock meant that the offerer had found out that his heart was full of evil. He had therefore locked it, thrown away the key, and prayed that no more evil might ever be able to get out of his heart! It is equally true that dancing girls, whose character is well known, are employed, sometimes by hundreds, with painted faces and white dresses, to take part in religious processions. It is well known that many high officers set the common people an example that they readily follow, in spending their leisure with dancing girls. It is a wide custom, on entertaining friends, to take them away to some "Tea House," and have a feast enlivened with *sake* and painted women. Or, worse yet, these professional women are invited to the home, and the wife made to wait on them. With some 15,000 licensed singing girls and courtesans in this city of less than 300,000 inhabitants, the position of Mr. Mitford is hardly tenable.

knows the reputed power of the fox to bewitch. Surely this is a presentiment that the dreamer is going to fall into the fox's dreaded power. But, as it generally happens in this country, it is just the opposite of what one would expect. The fox is the messenger of the god *Inari*, and to dream of a visit from the messenger of *Inari* means good fortune. So the man publicly recognizes the kindness of the god by hanging up this *Yema*.

Another dream-picture represents a sickly, suffering woman asleep under her mattress, and a great dream proceeding from her neck. She dreams that she sees herself sitting by her fire-box, when suddenly the paper slides are broken through by an enormous serpent, who, with open jaws, seems about to swallow her. Here, at least, is one picture that any foreigner can interpret. Of course, she has simply had a fearful dream, and on waking up is so thankful at finding herself outside of that snake that she proclaims her deliverance with this *yema*. But wrong again. This woman is a worshiper of the goddess *Benten*, and the pet messenger of this goddess is the snake. Many a prayer has this sufferer offered to her goddess, and at last the answer has come in the shape of this grateful dream. The snake has swallowed her disease, and the woman has waked up cured.

Snakes figure largely in the mixed religions of Japan. At Minō, a village twelve miles from Osaka, is a temple where there are several pictures of giant white snakes enjoying a bath in the waterfall. Near by is a picture of an old man, with joyous face, standing by an upset cart. He had been a cripple for years, unable to walk, or even to stand. Believing in the mercy of *Miss Benten*, he hired some coolies to draw him to this shrine, where he prayed for seven days. The two facts that he stands while praying, and that his cart is upset, show as well as words can that the old man's prayer has been answered.

There are countless *Yema* that tell the temple-visitor of the readiness with which the common people believe any and every superstition that cunning priests can invent. Take the monkey. He is said to be a marvelously efficient protector against small-pox. Multitudes have a profound faith in his divine power. One summer during the prevalence of the cholera, when the people of this crowded city were filled with fear at the number of dead and dying, a priest near the city, thinking to make a good thing out of the common belief, gave out that the *saru* (monkey) was as able to ward off cholera as he was small-pox. This exactly suited the multitude. They were tired of buying expensive disinfectants, tired of smelling a charm soaked in carbolic acid. So they went in crowds to the priest who had made the valuable discovery, worshipped at his temple with offerings of cash, and carried home pictures, or images, of the all-powerful monkey to hang over their front doors. The priest

was rapidly growing wealthy, when, to the amazement of his many believers, and in spite of the protection of his monkeys, he was himself carried off by the cholera.

It is decidedly curious to notice the solemn pun the Japanese make on this word *saru* (monkey), which also is a verb, meaning *to leave, to avoid*. "May adversity *leave* me," "Let me *avoid* misfortune," is the general meaning of the many monkey-*Yema* that may be seen in temples, or in the store of the picture-dealer. Everywhere there is adversity. In Japan, if adversity comes to a home, expect another of a similar nature after the cycle of twelve years has been accomplished. In these special years of calamity, the monkey is in great demand. Living ones are to be seen chained before some Shintō shrines, and at the celebrated *Sumiyoshi* shrine, five miles from Osaka, they make clay monkeys piled up on each other with a gymnastic appearance, and sell them by the thousands to the devout. The monkey is the last animal we should naturally use with which to excite devotional feelings, but he exercises a deep religious influence over large numbers of his supposed descendants here. He is a distinguished messenger of the gods, a sure protection against pending evils. Still, let him take care! There is a Japanese proverb that may have a significant meaning,—"*Saru mo ki kara ochiru,*" (even a monkey sometimes falls from a tree). It may be that Western civilization will prove strong enough to tumble him out of his heaven forever, but probably not until the present generation of crafty priests and superstitious old women shall have passed away.

Thanksgiving *yema* are very common. Doubtless of all the nations of the earth the Japanese make the greatest display of gratitude. If one has received a favor, however slight, he not only thanks, and protests, and bows repeatedly at the time, but at future meetings again pours out his thanks in pleasant words. This system of politeness is carried out towards the gods. This woman, with an anchor in her mouth, is a specimen of picture-thanks. Both she and her husband have had so severe an attack of toothache that the touch of the softest food could not be endured. But vows and prayers have helped the medicine to be efficacious, or have done away with the need of medicine. Hence, in gratitude they have had this *yema* drawn—of the woman only so thoroughly cured that an ordinary junk-anchor held in her teeth produces no pain whatever. The relation of husband and wife is dimly seen in the writing, which means that the wife is instructed to do whatever chewing of the anchor is necessary for both, while the husband, it may readily be surmised, tries his teeth on something more palatable.

The centipede-picture is another thank-offering. This land is a near cousin to old Egypt in its veneration of abominable creeping things. Buddhism, teaching that it is a sin to kill even a mosquito, has given an abnormal sanctity to the life of every

creature, nay, has virtually deified the whole living creation. The centipede has his place as the messenger of the mighty *Bishamon*, and is admitted to the feast of the gods. The priests, when talking to a foreigner, may deny that they allow any such thing as the worshipping of animals and insects. But they allow and encourage the worshipers to pat a stone fox on the head, to offer it rice, and to fold hands in prayer before it. They have helped to deify the monkey and the centipede. One of the most common of household gods is *Bishamon*, attended by his poisonous messenger,* and this picture is respectfully offered because the man believes that his success in life has come through this god.

All these *Yema* are common and cheap. It may be that, because the most of them are insignificant in appearance, they have been largely overlooked. On landing at Yokohama travelers are shown at once the rich pictures painted on silk, the ornamental bronzes and lacquers, the inlaid silver work, the ivory curios, etc., much of which, made under foreign influence, has the unconscious effect of blunting any desire to inquire into the less attractive temple pictures.

There are, however, some magnificent *Yema* here and there that are worthy of a place in any art gallery. These are mainly historic, representing scenes in the lives of ancient warriors. At *Ichu no Miya*, a shrine about one hundred miles south of Hiogo, there is a large, open hall containing seven of these paintings in blue and gold, the subjects being life-size. They are carefully protected from the spit-ball prayers of the worshipers by means of fine wire netting. Among these, Yoshitsune, "the hero warrior and martyr," is the favorite subject. His father was treacherously murdered; and his delicate mother, Tokiwa, taking the babe, Yoshitsune, in her bosom, and leading her two older boys, fled in a snowstorm to a place of safety. Her false eyebrows, after the old court style, her carrying the babe in her bosom instead of on her back, the boy's hair done up almost like a girl's, and the boys blowing their fingers as they trudge through the snow, form a picture so well known throughout Japan that any sketcher, without a copy, will draw one on demand.

The Japanese sometimes say, "We hate the Chinese." Yet they delight in Confucius' teachings, and honor the ancient warriors of China almost as much as they do their own. Gento-ku is one of the foreigners who is thus naturalized and deified. This hero had a splendid black horse, Tekiro, against the use of which he was warned by a prophecy that trouble would surely come to the rider. Heedless of the warning he

*In Osaka, among the converts to Christianity, are two men, one very wealthy, the other very poor, both of whom have presented their centipede-shrine to Yale-Peabody Museum. The rich man's god-house is adorned with gold and lacquered centipedes, and the carved image of "Bishamon" is placed in a tiny temple within the large one.

rode to battle, was defeated, and fled for life. Coming to a dangerous mountain-river, he lashed Tekiro's flanks, shouting, "Save me, Tekiro!" "Save me, Tekiro!" The horse heard the prayer, plunged into the torrent, and carried Gentoku across in safety. The prince afterwards regained his power, conquered his enemies, and became king.

Why do they hang these pictures of warriors and battles in their shrines? Because Shintōism, being a deification of departed warriors and rulers, is the religion of patriotism. Some twenty years ago, when the "red-haired, blue-eyed barbarians" were pressing their treaties upon Japan, there was a large party whose cry was, "Drive out the hated foreigners." The whole nation was agitated. The glory of Japan seemed to many to be in extreme peril, for which the only remedy was freedom from the barbarians' presence. It was about that time that the patriotic priests of *Ichi no Miya* hung up the above pictures together with those of Jingu, the queen who invaded and conquered Corea; Hachiman, the god of war; Yoshiige, another brave general; and the young Prince Atsumori, going unhesitatingly to his death. If the paintings of our Revolutionary War were hung in every church, the actions of the officers and soldiers made the only standard proper to be imitated, and the prayer, "Make me like these," the only prayer worthy of the bosom of a man, then the people of the United States would be as familiar with the separate deeds of the men of one hundred years ago as the people of Japan are with the heroic men they see in the pictures that surround them as they bow in prayer.

With reference to this whole subject, a collection of a hundred genuine *yema*, properly catalogued, would enable a student to understand in one hour more of the history, religions and customs of Japan than could be learned in a week from the best books that have been written.

LEGENDARY INVASION OF THE SAGINAW VALLEY

BY HARLAN I. SMITH, OF SAGINAW.

There is an interesting tradition prevalent among the Indians and pioneers of Northern Michigan, which may furnish a clue as to the origin of some of the primitive monuments found in the Saginaw Valley. It can not be shown by actual proof that this tradition is authentic, nor is it often told twice alike. Yet the general thread of the narrative is identical, whether related by the pioneer or by the Indian.

The tradition as told by an old Indian is, that at a time long, long ago, before the first white man set foot in this peninsula, there lived, in the territory drained by the Saginaw and its tributaries, a very powerful tribe called Sauks, and that the balance of Michigan was inhabited by the Pottawatomies, while the Ottawas and Chippewas occupied the northern part of the State as far as Lake Superior. The Sauks, who had strong villages along the rivers, were continually making war upon their Chippewa neighbors on the north and the Pottawatomies on the south, as well as upon some of the tribes in Canada. At last, realizing that the efforts of a single tribe to permanently subdue the Sauks were of no avail, a council was held at Mackinaw Island, consisting of all the tribes who had been repeatedly molested. At this council a large force was organized and fitted out with the best braves, arms and canoes which the united tribes could muster.

This force then set out in their bark canoes, going south along the western shore of Lake Huron until Saginaw Bay was reached. They then stealthily skirted the shore of the bay by night, secreting themselves in the day time; until after many days, they were within a few miles of the mouth of the Saginaw River. Here part of the force was set ashore, while the remainder crossed the bay in the night, and, landing on the eastern shore, detailed a part of their number to watch the canoes, which they concealed in the undergrowth. In the morning both parties started up the river, one on either side, and following the ridge upon which were located the villages of the Sauks, prepared to attack and massacre the inhabitants of each as they came to it.

The force on the west side attacked the main village by surprise and massacred all of the inhabitants, except a few who retreated across the river to one of the other villages, which was located near what is now Bay City. But about this time the eastern division of the invading force arrived and made a

furious attack upon this village. Here, a second time the invaders were successful, and the enemy retreating to a small island about a quarter of a mile up the river, thought themselves safe, as the invaders had no canoes at hand with which to reach them. At this place a siege was instituted until the next morning, when, the river having frozen over during the night, the two attacking parties were enabled to cross, one from each side, and by their combined efforts exterminated the garrison, with the exception of twelve squaws.

The invaders then resumed their march up the river, attacking and massacring all in their way. At the junction where the Cass, Shiawassee and Tittabawassee rivers meet to form the Saginaw, they divided, sending one party up each river.

Those going up the Shiawassee again divided on reaching the mouth of the Flint, so that some were sent wherever a village was located.

One of the largest villages was exterminated on the bluffs of the Flint, near the present town of Flushing. The division whose duty it was to exterminate the villages of the Tittabawassee River valley discovered an extremely large village only a few miles up the river, and overpowering the inhabitants by sheer numbers, killed them all and buried their remains in one large mound on the river bank. Traces of this mound may still be seen. The force that went up the Cass also attacked a large village which stood at the bend in the river, now known as Bridgeport.

After exterminating the entire tribe, with the exception of the twelve squaws before mentioned, a second council was held, and after considerable debate, these squaws were sent west, and by treaty put under the protection of the Sioux, much to the disgust of a large number who were in favor of torturing them. The conquered country was set aside for a neutral hunting ground, to be used by the several tribes who had taken part in the invasion. But since many of the hunting parties who visited the scene of their former victories never returned, it was thought by some that there still remained a few Sauks, who, lurking in the denser parts of the forest, vigilantly watched the chance for vengeance, and to kill any unsuspecting hunter who might be lead into that part by the game and fish which were so plentiful. Others believed the place to be haunted by the spirits of the exterminated Sauks, and nothing could induce them to venture into the mysterious territory. At last, so strong had become the dread of this region, that it was used as a place of exile for those of the tribes who committed extreme crimes.

More of the Chippewas were exiled than of the other tribes, so that their language prevailed, although somewhat changed by contact with the other languages.

THE MOON SYMBOL ON THE TOTEM POSTS ON THE
NORTHWEST COAST.

BY JAMES DEANS.

In writing about these carved columns, or totem posts, as some people call them, once so abundant in all the native villages in parts of this coast, I shall divide my subject into the following parts or headings, viz: their appearance, location, origin and meaning. What I am able to say concerning them is the result of over twenty years' research under difficulties of no mean description, owing to these people being unwilling to reveal to strangers the use of the columns and the signification of the carvings thereon, as the following specimen of the method I had to use in order to learn their meaning will show. The first thing I found I had to learn was the style of their carvings. "What is that bird on top of that column?" I would ask. "That is a raven." "And that one over there?" "It is an eagle." "What is that one with its wings spread?" "It is the thunder bird." "What is that animal cut out on the base of these columns?" "That is the beaver." And so forth. After awhile I got to know the one from the other.

My next step was to ask why they were carved on the columns. The answer I got was, "Everything you see carved on them has a story." "Tell me the story of this one, please." The answer came, "I do not know it," or, "I will tell you bye-and-bye," or, "Give me something and I will tell you all." I was prepared to wait, or to give, or do anything; yet after all, I got but little. However, a little here, and a little there, a little now, and a little then, after a number of years, amounted to something. Even then, the field is so vast that, after all my trouble, I must own I know but little. What I am about to write I received as truth, and believing it so, I send you what I have learned. After long years of acquaintance with these people, during which time many that I knew and showed kindness to as children, have grown to be men and women. These know and trust me as a friend. Besides, a great change has come over these people within the last five years. Also the age of the carved columns has passed. Some are being cut down for fire-wood, numbers fall through age, or are shaken down by the earthquakes and high winds which periodically visit these coasts and islands. A few costly marble ones, erected in the

village burying ground and streets, are still standing. No new ones are raised. Everyone's ambition, now a-days, is to have a beautiful marble tombstone erected to his or her memory, with an inscription, giving the name, supposed age and date of death. Some even go so far as to have one ready, with a blank space for the date, and sometimes the cause of death, to be filled in by their relations, after that event.

A few years ago, when I returned to Victoria, at the close of my summer's work, I got \$40 in hard cash from an old man in order to get him a tombstone. From him also I got a drawing of his crest, which was the above mentioned Thunder bird, or as it is called in the native, *Hadap El-anga*. This he wished to have engraven above the inscriptions, giving his name and date as near as possible of his birth, and where it happened, with the usual blank space for the remainder. This stone he received in due season, when it was stowed away, there to wait until required. I give this story to show the change taking place amongst these people. And with it close my introduction, and describe the villages as they appeared in the heyday of the totem period.

The traveler by any of the steamers on this coast in, I shall say, 1862 would be surprised as he came in sight of any Indian town, to see the number of tall columns, of various heights and forms, standing from end to end of every town, mostly in front of the houses, although a large number often were placed behind. As he drew near he would be amused to find them carved from bottom to top with figures, which he would naturally take to be runics or hieroglyphics. If he went through the village he would find that a number of these columns had no carvings on them, but instead had a box placed on top; on one side of this box was engraven something resembling the face of a human being. At some places he would see a long box resting on two strong cedar posts. At other places he would notice a long pole, like a flagstaff, with a bird on top of it, with a plate of copper either held in its beak, or placed in the pole beneath its perch. Often these poles have ropes placed beneath the bird in order to haul up a flag on gala days. Again he would find amongst this motley group others carved from their base upward ten or twelve feet, while the remainder of the column was divided into circles of a breadth of twelve inches. On numbers of these columns, tops as well as sides, were engraved men, women and children with hats, whose crowns are four of these circles in height. In others, a man is covered with five or more of these circles above his head, with a beaver sitting above his head on the uppermost circle. The most of these columns are without coloring, yet a few are painted with bright colors, having a pleasing effect. The colors used were bright red, yellow, dark green and black. The houses were always built in a row,

with two gables, the main entrance always facing the shore. In the center of this gable, and close to the wall, is the principal column in which an oval hole was cut to serve as a doorway. The lowest figure on these columns is a bear, a beaver, or a wolf; all have been carved in a sitting posture. In the lower part of the belly of the object the entrance or oval doorway was always placed. The average height of these columns may be placed at thirty feet; in width, four feet.

In their preparation a large cedar tree was selected, one easily split and with few knots being preferred, because knots interlere with the carving. After felling, it was cut into the desired length, and then split in two. The section chosen for the column was hollowed out to about five inches in thickness, according to the wish of the owner. After the bark and rough places were removed, it was floated to the village; and the carver set to work. When finished, it was raised by the united strength of the tribe, and by numbers invited from adjoining ones.

In order that your readers may have an idea of the appearance of these columns, when finished and set on end, I shall take a few of them as subjects for description, beginning with one which has three different figures on it. The one at its base is a beaver. (*Tsing*.) It is carved in a sitting posture, with the entrance, or oval hole, in the lower part of its belly. This symbolizes an ancient legend of the Haidas. Next above, and sitting on the head of the beaver is the Thunder Bird, (*El-anga*) which also has an ancient story. The next and last on the column is an old woman carved as sitting on the bird's head. She is represented as having an enormous labret placed on her lower lip, which is stretched until it disfigures her face, and is highly characteristic of old women amongst these people. This may be said to represent the typical woman of the Haidas, as her name *Itl-tads-dah* or perhaps more correctly, *Iiltuh Inotoch*, (Typical Woman) would imply, which in reality, she is shown to be on the carving. First, her large lip piece shows her to hold the highest rank possible to obtain among the ancient Haidas. Again her *Tadu Skeel* of four degrees above her head shows her to be a chieftainess of as many degrees as there are bands or circles on her long hat. These she seems to have had in her own right. Again she is carved as holding another *Tadu Skeel* of six degrees, one end of which is resting between her feet on the head of *El-angu*, while the other end is held by her hand under her chin. This *Tadu Skeel*, I think, would give her a claim to six degrees of nobility, obtained by inheritance. This column must, I think, have been erected to the memory of a woman who ranked high amongst the nobles of Haidah Land. Further of her history, I know not.

The next one I shall take has four designs. The first two is the bear, called by the Haidas *Hoo-its*. It is represented in a

sitting posture, with a cray fish in front of him. The next figure above is a frog, called *Kim-ques-tan*, with its head down, and its fore feet placed on the bear's head. The fourth and last figure is a beaver (*Tsing*). It has hold of the frog by the middle, in front of the hind legs. On this column the *Tadu Skeel* of one degree is placed on the head of the uppermost figure, which is a beaver. These four carvings seem to be family crests. The beaver with the *Tadu Skeel* doubtless was the crest of the head of the family, which is often placed on top of the column.

The next and last one I shall give, is one painted in bright colors—red, yellow and dark green. The figure at the base of this one is the *Tsing* (beaver) who, as is usual, is carved in a sitting posture, with a stick in his hands. Exceptionally in this case is a figure of a full moon on its belly, immediately above the oval doorway. Above, and sitting on the head of the *Tsing* is the typical woman of the Haidas. In her arms she holds the young crow (*Keet-kie*). On her head is seated the raven (*Choo-cah*), having a *new moon* in his beak, called by the Haidas *Kuny-hi-hatta*, or crescent moon. On the raven's head is the hat of distinction, or *Tadu Skeel*, showing that he is a most important person, or great chief. On top of the *Tadu Skeel* is seated the grizzly bear (*Hoo-its*). This column symbolizes the changes of the moon. First, the beaver has eaten up the moon, which is, as shown above, carved over the doorway. In order to show he has done it, the carver has placed it as if it shone out of his stomach. The old woman holding the young raven means that she has sent the raven away to hunt for a new moon, to take the place of the old one. In his absence she nurses the young one (raven). Having found a new moon, he has been carved as returning with it in his beak. Above all, the bear, which is the crest of the person who raised this column, is also shown, as if he was watching the restoration of the moon.

In the summer of 1884 a census of every town, old or new, was taken, including the number of people, houses, columns, etc. This I shall give with the location of each town or village. The returns give Skidegat thirty houses and fifty carved columns, besides, I think, thirty mortuary ones, and a number of *Sathling-un-Nah* or dead houses, or tombs behind the village. To-day, 1891, very few old style houses are left, all having been replaced by modern ones, built from models, from houses in Victoria.

The village of Guneshewa, Q. C. I., named after its chief Grunshawas town, had eighteen houses and twenty-five carved columns, besides mortuary ones, and dead houses.

Captain Skidanse's town is given as having twenty-five houses and thirty carved columns, besides a number of mortuary ones.

In Captain Clue's town, Tamo, Q. C. I., the number given is twenty houses and twenty-five carved columns.

Niustint's town, so called after its chief, is the southmost town on the Q. C. Islands. It had twenty houses, twenty-five carved columns and twenty mortuary ones, given at date.

In the district of Massett there are three villages, namely, Yan on the west side of the inlet. At the above date it had twenty houses, twenty-five carved columns. Yon-tc-wuss, the principal village, stands on the east side of the inlet. It had forty houses and fifty carved columns, besides a few mortuary ones. Ha-yung, the third village, has been abandoned for a number of years. It had six or seven columns standing, also a few fallen ones. Yateza, a new village a few miles from Massett, had three houses and one carved column. At Kung, on Naolen or Vrago Sound, there were fifteen houses, all in ruins but two, and twenty carved columns. Tadens is a new village on an old site. It had seven or eight houses and one carved column, erected a few years ago. At the deserted villages of Yakh and Kioosta, besides a great many tombs, there were a number of columns with very ancient carvings. At the former there were six houses and ten carved columns. At the latter, fifteen houses and eighteen carved columns.

The Gold Harbour Indians' village of Heenii, on Maud Island Q. C. I. This village was built about 1876 by the remnant of the West Coast tribes, who bought a piece of land from the Skideyats, and formed a new tribe by moving into it. At the above date there was in this village thirteen houses and eighteen tombs.

At the village of Kai-Soon there was ten or twelve houses, and about as many carved columns, besides a number of tombs.

The old village of Chu-att, had (I think) about fifteen houses, mostly in ruins, and I believe twenty carved columns. At this village the tombs far outnumber those at any village on Haidah Land.

There are three or four villages of Haidas in Southern Alaska, at Kyyanie, and other places, who have also carved columns.

In all Huidah Land including the above mentioned tribes in 1884 I am sure there was not less than 500 carved columns.

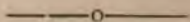
The Skickeens of Alaska, in 1862 had a vast number of these columns in their villages.

Amongst the Simsheans, at Fort Simpson, in the villages on the Nass and Skeena, as well as at various other places, the number and designs of these columns, was simply astonishing.

As far as I have seen, the style of the carvings, as practiced by the Haidas of Queen Charlotte's Islands and all outlying tribes speaking the same language, and known by the name of Haidas (strangers), is the same as practiced by the Kling-gate (*Thlingkeet*) tribes, of Southern Alaska, and probably all the other tribes speaking the Kling-gate language; the Simsheans, who occupy a vast territory on the Islands, inlets and rivers of

the mainland in British Columbia, and who speak the Simshean language. The modes of carving as practiced by the above mentioned people and nations are unique in their designs, crests and legends, while the styles of their neighbors, the Bill Billas, Bella-Coolas, Quackguills and others are so different that it may freely be said they have a style of their own, if the rude carvings, on the ruder poles they have, may be called a style.

Perhaps, as far as I have gone, I have been too precise in my account of these columns, their location and numbers, but then, when I consider the ever-increasing amount of inquiry concerning them, and well knowing that in a few more years a description of them will only be found in the pages of history, I thus take the liberty to be precise, believing that by insertion in the pages of your valuable journal they will be preserved, for the use of future inquirers, for all time. In my next paper I shall speak of the origin and signification of the columns and their carving.



Correspondence.

FIRE BEDS AND MOUNDS ON THE ALLEGHENY.

Editor American Antiquarian:

I have from boyhood taken great interest in our American Stone age, and have a collection of some two thousand objects with their history. Many of these I have obtained from the village sites in this vicinity. There are two islands in the Ohio river, as follows: Brunos, one mile from the junction of the Allegheny and Monongahela, formerly contained about 300 acres. The other, Neville, four miles from the junction, is seven miles long. These islands were once camping grounds, as is shown by the vast quantity of hearths washed out by the action of the current. In many places these hearths seem continuous, and have led to the erroneous theory of an ancient macadam or paved road. Having learned in boyhood that these localities furnished many implements and weapons and pottery, I was loth to disabuse the public mind in order that my visits after the spring freshets might pan out well. These hearths were located about four feet from the surface in sandy loam beneath the black leaf mould, which is about two feet in depth. The alluvial deposit is about ten feet in depth, resting upon gravel. Midway between these islands is an extensive bottom land, from the upper end of which rises one of those strange island-like bluffs, 150 feet perpendicular in height at its southern end. It is about one-eighth of a mile in length and about 300 yards wide. At its

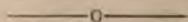
northern end it can be ascended from the alluvial bottom on which it stands. Upon the highest point near its northern end stands a beautiful mound about 50 feet high by 130 feet in diameter, having large forest trees growing upon it. North of the mound was formerly to be seen an earth wall and ditch extending across the bluff. Four years ago I attended the opening of this mound. It contained an altar of clay, calcined bones and charcoal upon its top. Around the altar, extended upon the original surface, were a number of skeletons, some of unusual size and in fair condition. These showed no signs of fire. From the character of the clay there is no doubt the material of this mound was carried up from the bottom land, as at this point but little soil can be found above the rock composing the bluff. Many objects of flint, stone, slate and pottery were found. From the top of this mound there is an unobstructed view north, east and south, overlooking the two islands above mentioned, and also the terrace upon which stood Fort Duquesne, and in full view of the scene of Grant's defeat by the French and Indians.

Thirty miles southeast of this upon a plateau bordering the west bank of the Monongahela river stands a similar mound, which I consider the Eastern outpost of the Mound-builders. At least I have failed after years of inquiry and exploration to locate another upon the Monongahela or its tributaries. There are, however, small earthworks and graves, with very numerous village sites. The next mound in this vicinity is upon the north bank of the Ohio, twenty miles below Pittsburg. It is not quite so large as the others, but high and symmetrical. The owners refuse to have it opened, but from its location upon an extensive terrace and near numerous village sites, I place it in the class of burial mounds, with or without an altar. Upon the top of the bluff before mentioned, in the rear of the mound, the ground seemed to be literally full of human bones. The graves are so shallow that bushels were thrown up every spring by the plow, and had to be gathered and buried for decency's sake. The owners of the land having descended on the mother's side from a tribe of Delawares whose habitat was here. Their last chief or king was Shinghiss. Another tribe north of the rivers was ruled by Queen Allituppa. You will see that we have here at the junction of our rivers a region not only historic but one of a peculiarly interesting study to the student of prehistoric American archæology. I have a number of papers upon this subject, which I have perused for the information gained, having obtained nearly all the publications upon the subject, including Squier and Davis' complete volumes. I have been greatly interested and very much flattered in reading *THE ANTIQUARIAN* to notice that you have at length taken the bold stand in regard to identifying the race of Mound-builders, and also in locating their territory with its geographical divisions. All this as you outlined I have repeatedly read before the Western

Pennsylvania Historical Society. A few years ago I was severely criticised, but recently one of the severest critics has become my strongest ally.

I have visited many of the mounds located south and west, also the works at the mouth of Black River, near its junction with the Washita. These are pyramids. The works at Marietta I consider to be the most elaborate, exhibiting scientific skill no other location can boast of. I visited an exact duplicate of the Marietta mound, with its wall and ditch, on the west bank of the Tallehatchie River, not far from its junction with the Yellow-busha, forming the Yazoo River, in Mississippi. This was located upon the alluvial bottom, subject to overflow; but the numerous works in these valleys were invariably placed upon the highest land to be found, consequently the first settlers, in clearing plantations, selected the sites of the mounds and generally levelled the works for a foundation upon which to build the big house or the negro cabins. In this way many mounds and earth-works were destroyed and their contents scattered and lost.

THOMAS HARPER.



PYRAMID AND OLD ROAD IN MISSISSIPPI.

Editor American Antiquarian.

I received your circular in regard to your forthcoming work on the Mound-builders. I am unable to give you the name of any parties in Mississippi who have made explorations among the mounds.

I would, however, call your attention to a pyramid mound, called the *Nanah Waiyah* mound, of Mississippi, and famed in the folk lore of the Choctaws as one which they claim as the cradle of their race. I am perfectly familiar with the *Nanah Waiyah* mound. It is situated in the southeastern corner of Winston county, on the west side of Nanah Waiyah creek and about fifty yards from it. The mound is forty feet high. Its base covers three-fourths of an acre. Its summit, which is flat, has an area of one-fourth of an acre.

A semicircular rampart envelopes the mound—the rampart being perhaps nearly a mile and a half in length, and each end or extremity of the rampart terminating upon the bank of Nanah Waiyah creek, one about 600 yards above the mound, the other the same distance below the mound. In short, the mound stands exactly mid-way between the two extremities of the rampart. The greater part of this rampart has been worn down by the plow. But in a certain place where it traverses the primeval forest it is full five feet high. There are quite a number of vacant spaces, or rather gate-ways, along at intervals in this rampart.

Whether a low rampart ever extended from each terminus on the creek to the mound, can now never be ascertained, as all around the mound was cultivated by the Choctaws in 1832, when the whites first came into the country, and may have been cultivated by the Indians for generations, and if such a low connecting rampart ever existed, all traces of it have long since disappeared.

But another matter connected with the mound, I will mention. The Nanih Waiyah creek bottom, which is subject to overflow, is on the eastern side of the creek. The side on which the mound and rampart are situated, while a rather flat country, is far above the high water mark. Now, on the high ridge in the primeval forest, somewhat southeasterly of the mound are traces of a primeval road about four feet wide. Some years ago I traced this road up for some hundred yards. It leads directly towards the Nanih Waiyah mound.

I traced it up until all traces were lost in the intervening swamp, the annual overflows which would necessarily soon destroy all traces of a road. Now, I noticed some large forest trees standing in this road, an evidence of its great antiquity.

Could this road have been built by the builders of the Nanih Waiyah Mound? The terminus of the last trace of this road, just as it projected into the swamp, is scarcely a mile from the mound, and pointing directly towards it.

I have seen in Mississippi many an old Indian trail, and some of them quite ancient, for good sized trees were growing in them, but all Indian trails are narrow—mere foot paths. But this old road is wide enough for at least three persons to walk abreast. Now, could the Mound-builders have constructed and made use of roads much wider than the ordinary Indian trail?

Some twelve miles below Columbus, Miss., on the east side of the Tombigbee, are the remnants of another ancient road, similar to this one, near the Nanih Waiyah Mound, with large trees growing in its center. This road crosses the Tombigbee at the Ten Mile Shoals, which are ten miles below Columbus, so called from this circumstance. There is an ancient Mound-builders' cemetery on Line Creek, in the northern part of Oktilheha Co., Miss., and I have thought that this ancient road across the Tombigbee may have been the highway connecting this cemetery with the Mound-builders' settlements in Greene and Perry Counties, Alabama. However, this is mere conjecture. But could not the Mound-builders have made use of rather wide roads in carrying the bodies of their dead to their national cemeteries, if I may make use of such an expression? How can we account for the construction of such ancient thoroughfares which are so much wider than the common Indian foot paths?

H. S. HALBERT.

Garlandville, Miss., Nov. 7, 1891.

MOUND-BUILDERS' PIPE AND CHUNKEY STONE.

Editor American Antiquarian:

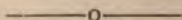
Mr. A. J. Kite, of Grove Hill, Page County, opened what we call an Indian mound, and found several skeletons and relics, among which was a beautiful pipe and breastplate. The bowl of the pipe on top had a nicely carved picture of a turtle, and a hole was bored through the back. There are two projections to the pipe, on opposite sides, of equal length, one to hold by and the other has a hole bored through for the stem. It is of stone. This pipe is in my possession.

I could not give you the names of any persons in this county that have any collections worth mentioning. I have 500 or 600 flint arrow-heads, of all sizes and shapes, some very nice ones, that have most all been found in this locality (Marksville), and some twenty-five or thirty tomahawks, most of them what I call chipped ones, very few polished ones, but all with grooves around them. Have few pestles, hammers, broken pipes, breast plates, and a good many other little tricks.

I have a curious relic of hard quartz, found near Grove Hill, and have never seen in the books one like it described. It looks like a little grindstone; is three inches in diameter, with a round hole through the center, five-eighths of an inch in diameter; the outer edge or rim is one inch thick, and hollowed out on both sides to the hole in the center. I can not imagine what use it was.

DAVID KOUNTZ.

Marksville, Page Co., Va., Nov. 5, 1891.



INSCRIPTION WITH DATE OF 1676 NEAR ST. LOUIS.

Editor American Antiquarian:

You have, no doubt, noted the items going the rounds concerning inscribed tablets found near LaHarpe, Ill., purporting to be connected with LaSalle's expedition? I am interested in those tablets above the average reader, owing to the fact that several years ago while the cellar of a house was being dug in this city, the workmen came upon a yellow stone tablet about four by six inches with sunken lettering and figures on both sides. I have had several plaster casts made and they show singular pictures. On the one side is a deer or elk with very large prongs; what seems to be a large straw-berry; a head of wheat or rye; several other plants, etc., the whole forming a very intricate picture surrounded, as contained in a large heart, with the date 1676 near the depression. The other side has

something similar to a rope border within which are figures of what I think are Spanish soldiers, four in number, two of whom are facing a large halberd, each clasping it with his right hand, and one with the other hand offering a goblet which the other is receiving—very much in the manner of the old English style which was adapted to prevent one from knifing the other during a friendly drink. Just in the rear of these figures appear two others also with weapons. At the top of the plate appears 13 as if the tablet was No. 13 of a series, running down the middle alongside the halberd, appears the following.

DAVITSA
UL
AN
1676
NO
BER
REN
HART

DAVIT SAUL BERRENHART. ANNO 1676.

As we are only eight miles from the Mississippi River, I am inclined to think the stone is in reference to some of those early expeditions. Can you throw any light on the subject from my description? Also can you tell me who or what was "Davit Saul Berrenhart?" If you can, should be pleased to have you do so. Will state that I have a large collection of relics from this vicinity, many from the famous Monks' Mound, including the little sand-stone tablet you saw and described in your work last spring. Should you pass this way, would be pleased to show you what I have. If there is anything further you desire to know about above described tablet, let me know.

Hoping you will find time to answer this, I am,

Respectfully, J. R. SUTTER.

Edwardsville, Ill.

Editorial.

WATER CULT AND THE DELUGE MYTH.

One of the mysterious things about American archæology and mythology is that they contain so many reminders of the events which belonged to the early days in historic countries, and which have been transmitted through history. We are constantly coming upon these in whatever region or province we may be engaged, whether in the territory of the Mound-builders, Cliff-dwellers, Pueblos, wild hunters of the north, the fishermen of the northwest coast, the agriculturists of the south, the semi-civilized people of the interior, the civilized races of Mexico, Central America and Peru. Among all these we find not only symbols, but traditions and myths which strikingly resemble those of the east. This makes the department of symbolism interesting and important, though there is no branch of study which does not, in this respect, become suggestive. If we take up the solar cult, the moon cult, the water cult, the fire cult, serpent worship, animal worship, totemism, animism, fetichism, going from the most elaborate to the most primitive, we find reminders of familiar events which have occurred elsewhere, and can not resist the impression, even in the least developed or most primitive of these systems, that there are traces of something that lies back of them which does not belong to them and can not be ascribed to any indigenous or native origin. The clue may be misleading and we may take too much for granted, but we certainly ought not to ignore its existence or refuse to admit the evidence when presented.

Dr. C. P. Tiele said, several years ago: "The question of the relation which the religions of savages stand to the great historic families of religions has just been opened." But very great progress has been made since that time, and we ought to be able to trace, before long, not only the relations, but also the channels through which these reminders have come. Over a large extent of Asia and Europe, the Aryans were preceded by Turanian people. Such is the evidence of history. Archaeologists have, to be sure, been thinking of late that there were no Aryans or Turanians, but, on the contrary, that all classes descended from the paleolithic people of Europe, that dispersion by immigration to America took place during the latter part of that age, and that separation occurred some time in the early part of the neolithic age. This does not do away with the distinction which the linguists recognize, nor can it destroy the evidence which is presented to the mythologist that there is

a filtering of the events and traditions of historic countries through the tokens and myths of prehistoric America, and we cannot certainly allow a speculation to destroy or do away with that which is so plain. Too many discoveries have been made in Egypt, Assyria and the far East for us to ignore the record of creation, the deluge, and other events as they are recorded in Scripture and confirmed by the monuments and tablets.

In fact, it seems to us to be time that the historic and prehistoric archæologists should be working together instead of apart, and the department of Biblical archæology, which has been making so great advance, should be recognized as a coadjutor in the field instead of an enemy. We do not lessen the importance of nature worship when we deny that the tradition of the creation was the result of personification, that of the flood the story of local freshets, for there is a strange mingling of the local and the universal, of the modern and the ancient, and it is very difficult to separate them without destroying the whole fabric.

Still, we would make a distinction between nature worship in America and in Asia, ascribing the latter mainly to an historic source and the former to a prehistoric source—one aboriginal and the other traditional. Here the archæology of the East will assist us. In Egypt the work of creation was ascribed to the gods of fire, though the element of moisture came in. Ptah, an appropriate name for the god of fire, was a "former sculptor;" Sachet denotes "kindling fire;" Pechet is the "devourer," and Bes is the "ascending flame." The semitic gods of fire and light contend: The consuming and destroying sun god, contends with darkness as, in Egypt, Osiris does with Set. Among the Akkadians fire played an important part, though their worship consisted of magic. The Akkadians are supposed to be the same as the Turanians, which is a term used to designate the so-called Ural Altaic, of which the Mongols, Magyars, Finns, Samoyedes are the chief branches. The religion of the Finns embodied much of the system which belonged to the Turanians; the Klavala is the book which contains the epic poems of the Finns, the subject of which is simply the contest of the nature powers personified. The three great heroes of the Klavala are the ancient spirits of Heaven, fire and earth, and correspond to Odin, Loki and Humir, the German triad of gods.

The Persian religion was one in which there was a great development of the worship of fire and the drink of immortality. The Persians had a peculiar superstition about the disposal of the body. They supposed it could not be burned, because that would corrupt the fire; they could not bury it, because that would corrupt the earth; it could not be left exposed, that would corrupt the air; it could not be put into the water, for that would corrupt the water; it was therefore put in a tower

so that it could be devoured by birds. The Wends, however, on the contrary, had three methods of disposing of the body: burial that carried the soul to the under world; burning, which bore it in smoke to the heavens; burial in a boat, which transported it to the island of the sun. Among the Scandinavians, Loki was the God of fire; he was not to be trusted; while he was beneficent, he was treacherous. Lenormant in his Chaldean Magic has given the same history. He says the Chaldaic Babylonians, who were devoted to astronomy, read in the sidereal and planetary system revelation of the divine being. First was *Set*, Cronos, mysterious source of all things; *Anu*, primordial chaos, god of time; *Hea*, god of water, the spirit that brooded over the water; *Bel*, the demiurge; next, the gods of the five planets—*Adar*, Saturn; *Marduk*, Jupiter; *Nergal*, Mars; *Istar*, Venus; *Ncho*, Mercury.

The demons were seven phantoms in flame, who were the counterparts to the seven gods of the planets, including the sun and moon. In Anu was recognized the ideal of a cosmic or uranic triad, heaven and earth and fire. The Chaldeans had the opinion that the shape of the earth was a boat turned upside down, a coracle; the interior cavity was the abyss where the dead found a home. Above the earth extended the sky, spangled with stars, the central point was the nadir; here was the mountain of the East with its four spurs or peaks, and the central point. Between the earth and heavens was the zone of the atmosphere where the winds blow and the storms rage. Fire worship was at first common to both the Turanians and Aryans of ancient origin; fire was the most active of all the gods; man could hold direct communication with him by means of sacred rites and by lighting the sacrificial flame. Under the name *Izdubhar*, "man of fire," he became one of the heroes of epic history; he was called the supreme pontiff of the earth; he was recognized in the flame of the domestic hearth and protected the house from evil influences, and was called the "god of House." In his natural reality, he was superior to the sun; in his historical, he was the survivor of the deluge; in his office, he was the divinity of the hearth; the insignia of his office was a reed, which took the place of a wand. The rush was used as the fire generator; hence he was called the god of the rushes.

The animal symbol of *Set*, Egyptian god of evil, was a carnivorous quadruped, having a long curved snout, upright, square-topped ears. The soul was a sparrow-hawk, carrying a ring. *Osiris*, the sun, had for his companion twelve hours of night. *Horus*, the rising sun, struggled with darkness, and with his spear, while it is dark, pierces the serpent, *Apophis*, who is the spirit of darkness. The solar phenomena were indications of the divers phases of human existence. Each point in the course of the sun was regarded as corresponding to the different phases of human existence. Personification gradually intruded itself, and

they divided the divine existence into the "active" male; female, "passive." It ultimately embodied itself and became confounded with historical events. The tragedy of Prometheus bound was occasioned by the stealing of fire from the gods, but nevertheless there was a divinity of the hearth. Among the Greeks everything in the household was made sacred by the presence of fire, which was personified and regarded as a divinity.

We see from this review of the oriental religions how the fire cult gradually developed into elaborate and complicated systems of worship. There is no difficulty in tracing the line through. With the water cult it is different. In this we have from the outset a mingling of nature worship personified with historic traditions. The water cult in India was, to be sure, very primitive, and is closely associated with nature worship. But we notice that there was the same method of creating soma, or drink of immortality, that was elsewhere followed by creating fire. The sea was churned by the mountain, which was revived by Asuras and the Sudras, who pulled the great serpent to and fro, as those who were making fire would pull the cord or rope that turned the fire generator. In America there is no such tradition of the serpent, though the symbol of the fire generator is very common. The water cult in America seems to have come from foreign countries.

The knowledge of the Pleiades, the traditions of the deluge, the conception of the dragon, the worship of the serpent, the prevalence of the phallic symbol, the association of the water cult, fire cult, moon cult and the solar cult, are all arguments for the transmission of the tradition of the flood from foreign countries, even if the cult is found in a very elementary and primitive condition. Take the following cosmogonic legend of Oannes of Berosus: "According to extracts from the Grecian historian of Chaldea, he had a body of a fish entire, but underneath his fish's head there was a second human head, while human feet appeared under his tail, and he possessed a human voice. This monster spent the whole day amongst men without taking any food, while he taught them letters, science, and the principles of every art, the rules of the foundations of towns, the building of temples, the measurements and boundaries of lands, seed time and harvest; in short, all that could advance civilization, so that nothing new has been invented since that period. Then at sunset this great Oannes regained the sea and passed the night in the vast region of waves, for he was amphibious." This description of Oannes is interesting when studied in connection with the following picture of the Zuni water-snake, which was found by Lieut. Whipple on the rocks in Arizona. See Fig. 1.

It was observed by the explorers near the Rocky Dell Creek. The interpretation of it as given by a Pueblo Indian was that it represented the great water snake created by Montezuma, to

give rain; they describe the snake as of great length, slowly gliding upon the water. The great feathered serpent of the Zuni was supposed to live in the water and to guard the springs. The celebrated Aztec spring was its favorite haunt. Vessels taken from this fountain had upon them crescents, serpents, frogs, tadpoles and other water animals. Lieut. Whipple says: "I do not know that upon this continent any animal has been found similar to that; it would seem to be of Eastern origin." There is a tradition among the Zuni of a great flood; this flood came from the west and rushed down the great canon and filled it with water; a great many of the people fled to the top of the mesa and were saved from the waters; the rest perished—the Navajos, Apaches and wild beasts, in the sea of waters, except such as found safety there. The Zuni built a pueblo upon the lofty eminence, and waited the subsidence of the waters. Time passed and the waves still surrounded their refuge. A sacrifice was devised to appease the water divinity. The son of a chief and a beautiful virgin were the chosen offerings. As they were let down from the cliff into the deep, the waters rolled back, leaving the young man and maid statues of stone.

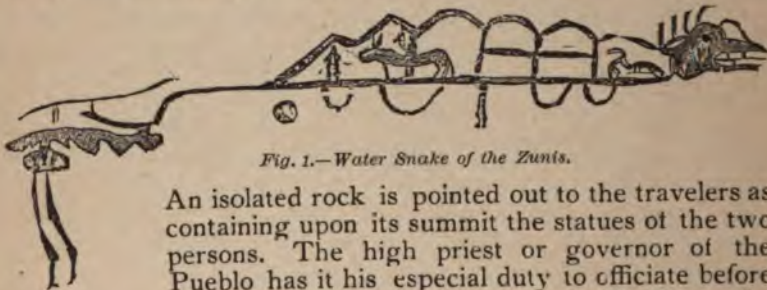


Fig. 1.—Water Snake of the Zunis.

An isolated rock is pointed out to the travelers as containing upon its summit the statues of the two persons. The high priest or governor of the Pueblo has it his especial duty to officiate before the water deities. Among the wild tribes—the Algonquins, Iroquois, and Dakotas—there are various myths as to how the earth was recreated after the deluge of waters. There are variations as to this myth, but generally Manobozho is the divinity who personates Noah. He survives the flood, floats above the water in his canoe; he sends different animals down into the water to bring up the earth. The muskrat succeeds. Manobozho takes the mud from the claws, sprinkles it upon the water, causes it to grow until it becomes a great island; he sprinkles small lumps on the island, and they become mountains; he sticks arrows into the ground and they become men and women.*

This story has its analogies among the Sioux, Athabascans, Iroquois, Cherokees and various tribes of British Columbia and California. The story varies according to locality. Among

*See American Journal of Folk Lore, Sept. '91, article by A. Chamberlain, which gives the variations of this tradition. Page 15, Vol. IV., article by Dr. F. Boas.

the Algonquins he is Michabo, the giant rabbit, but he is a god of wind, storm and rain; he is said to have scooped out the basins of the lakes. Among the Ojibways a mighty serpent began to flood the land, but Michabo destroyed him with his dart. Among the Cherokees the animals were above, nothing was below but a wide expanse of water; but the water beetle and the water spider dove to the bottom and brought up the mud. Among the Yocusts of California the earth was covered with water; there existed a hawk, crow, duck, but the duck brought up his beak full of mud. Among the Chinooks and Bilqulas it was the muskrat. The buzzard flopped his wings and made the mountains. In the description given by Catlin of the religious ceremonies which prevailed among the Mandans before and after the initiation of their young men as warriors, he says:

The Mandan religious ceremony commences not on a particular day of the year, but at a particular season, which is designated by the full expansion of the willow leaves; for according to their tradition the "twig the bird brought home was a willowbough and had full-grown leaves on it." The bird to which they allude is the mourning or turtle dove, and being as they call it a medicine bird, it is not to be destroyed or harmed by any one, and even their dogs are instructed not to do it injury. During the ceremony a figure is seen approaching; the body of this strange personage, which was chiefly naked, was painted white, resembling at a little distance a white man; he wore a robe of four white wolf skins, falling from his shoulders, on his head a splendid head-dress of two raven's skins; in his left hand a pipe was cautiously carried as if of great importance. After passing the chiefs and braves, he approached the medicine or mystery lodge, which he had the means of opening and which had been religiously closed during the year. While preparations were making in the medicine lodge Nu-mohk-muck-a-nah, "the first or only man," traveled through the village, stopping in front of every man's lodge and crying until the owner came out and asked who he was and what was the matter. To which he replied by relating the sad catastrophe which had happened on the earth's surface by the overflowing of waters, saying that he was the only person saved from the universal calamity, that he landed his big canoe on a high mountain in the west, where he now resides; that he has come to open the medicine lodge which must needs receive a present of some edged tool from the owner of every wigwam, that it may be sacrificed to the water; for he says, "if this is not done there will be another flood and no one will be saved, as it was with such tools that the big canoe was made." Having visited every lodge and wigwam during the day and having received such a present at each, he returned at evening and deposited them in the medicine lodge, where they remained until the afternoon of the last day of the ceremony, when they were thrown into the

river in a deep place from a bank thirty feet high, and in the presence of the whole village, from whence they can never be recovered. These were undoubtedly sacrificed to the Spirit of the Water.

Catlin, with this description of the ceremony of the big canoe, the medicine men, the gathering of the knives, brings in a few remarks in reference to the symbols. He says the number four seemed to be sacred; the ceremony lasted four days; there were four medicine men who searched the four parts of the camp or village; there were four groups of dancers; four sacks of water, resembling large tortoises, were placed on the floor; four men were selected to cleanse out the lodge; four cardinal points were symbolized; four skewers were placed as instruments of torture in the arms and legs of the warriors; four sacrifices were made; four colors; and narrates that there were four tortoises which supported the earth; they carried dirt on their back, though he brings in the idea of forty days, as the buffalo dance was repeated four times, eight times, twelve times, sixteen times in the successive days.*

Among the civilized races the tradition of the flood is common, but it is there associated with the divinity of rain, and with the water cult as it is in the uncivilized. Here, too, we find the same peculiarities. The serpent has a part in the great catastrophe; a white God is the culture hero who answers to the Noah of the Bible, but his history is in contrast with the culture heroes of the uncivilized. The Fair God yields to his enemy, Texcatlipoca, who is a very Loki, or god of evil, whose symbol is the serpent; but he escapes to the pyramid of Cholula, in connection with which there is still a tradition of the flood; he withdraws from this and takes his canoe made of serpent skins and crosses the water, promising to return again. This tradition or story of the Fair God has been interpreted by Dr. Brinton as a personification of the sun having a contest with the god of darkness. Others, however, maintain that he belonged to a race different from the one he civilized; that he created a new religion, based on fasting, patience and virtue. The Aztec Neptune, or water god, was Tlaloc, whose image is painted green and azure, representing the various shades of water. It is armed with a wand, twisted into a spiral, ending in a sharp point, in representation of a thunder bolt. Tlaloc had a chapel on the top of the great temple of Mexico, as important as that of Huitzilipochtli, with which it was connected. On the day of the feast of the Tlalocs the priests of these ministers of the god of waters betook themselves to the lagoon of Citlatepetl, situated a few miles from Mexico, to cut the reeds for decorating the altar.

*Catlin's North American Indians, Vol. I., page 158.

EXPLORATION OF THE HOPEWELL MOUNDS.

The group of mounds in the center of Hopewell's earth-works (described on page 26 of Squier and Davis' volume as the Clarke earth-works) has been explored by the World's Columbian Exposition Survey under the direction of Prof. F. W. Putnam, the field work being in charge of Warren K. Moorehead. The effigy mound, so called because of the stone effigies contained in it, was 510 feet long, 190 feet broad, and 24 feet high.

There are twenty-six mounds in the group. Fifteen have been explored. Over 150 photographs were taken. The survey has been out since April 6th. The assistants found: 7,232 flint disks, a 16-pound cu. axe, 1 Pacific coast stone bowl, 7 platform pipes, 11 small and large cu. axes, 2,500 sheets mica, 7x8 to 12x15 inches, 22 fine spear heads, 50 copper spool-shaped objects, 5,000 beads, 900 pearls, 10 altars (some of which were taken out entire), 500 wolf, bear and panther tusks, 4 shell ornaments, 13 busyicon and pyrula shells, 120 skeletons, awls, needles, carved bones, galena, celts, perforated humeri, bear tusks set with pearls, etc. The field notes cover 200 pages.

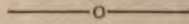
The structure was divided into six sections, on account of its great size, of 80 feet in width. At the present two sections only have been carried to the bottom, a distance of 24 feet, and a great many skeletons of the brachycephalic type of crania have been unearthed. In the top of the second cut we understand that an effigy of a panther, made in outline from standing stones, was discovered; its dimensions corresponded with the effigy mounds of Wisconsin, from 80 to 90 feet long. This effigy seems to connect the last builders of the mounds with the Dakotas of the west. The finds at the bottom of the cut were different. The other excavations will be completed some time in February.

In the second cut, 200 feet west of the east end of the effigy, a deposit of skeletons was found near the north side lying upon the base line. The base of the mound had been burnt hard, and the earth above this cement-like floor was interstratified by layers of sand and gravel.

All the skeletons were in hollows or dome-shaped caves 4 or 5 feet in height and half filled with earth. Near the north end of the second cut lay a male skeleton 11 feet from the surface and upon the base line. The description published in the daily papers of this "king," as they called him, was not far from the truth. There were wooden horns at his head in imitation of buck antlers, 22 by 19 inches, having five prongs on each side. Thin sheets of copper coated the wood. These singular horns were attached to a helmet-shaped head-dress reaching from the upper jaw to the occipital bones of the skull. Pearl beads, both from fresh water mollusks and from the ocean, covered

portions of the body. Hundreds of ordinary shell beads, bear teeth whole and also sawed and split ones, bear and eagle claws, copper spool-shaped objects, copper disks, etc., covered the chest and abdomen. A large platform pipe, a beautiful agate spear-head, four copper plates, came from the south coated with copper, etc., covered the chest, back and sides.

A full report of the discoveries at the Hopewell farm (which consists of hundreds of copper, mica, shell, bone and stone ornaments) will be made in Prof. Putnam's and Moorehead's reports published under the auspices of the World's Columbian Exposition in 1893.



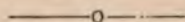
THE COLUMBIAN EXPOSITION.

Archæology and ethnology are likely to be so represented at the World's Fair as to give the science an impetus in this country. The National Museum and Smithsonian Institute will have a large number of specimens in the government building, including relics of the stone age, casts of the pueblos and specimens of sculpture from Central America. There will be representatives of the different tribes in their native costumes, civilized and uncivilized. Dr. Thomas Wilson and Prof. O. T. Mason will have charge of this. The various States will also have archæological exhibits, which will consist of the relics collected by societies and by individuals. We have had letters from parties in Oregon, in Tennessee, in Missouri and other States, which show that the private collections, some of which are very valuable, will be sent to Chicago under the care of the State Commissioners. We had hoped that these State exhibits would be massed together where they could be seen and compared. Perhaps the safest way for the collectors is to put them under the care of the State Commissioners.

The largest and best exhibition will be under the care of Prof. Putnam, who is proving a very efficient chief of the department. There will be an immense quantity of Mound-builders' relics, some of them entirely new, having just been discovered. There will be large collections from the Cliff-dwellers and Pueblos, also from the northwest coast and from California. There will be reproductions in plaster of some of the most interesting antiquities of Honduras and Yucatan. It is expected that all the living races will be represented in costume, and their peculiar modes of life represented by temporary structures. The opportunity will thus be given of comparing the historic and prehistoric, the civilized and the uncivilized. If Prof. Putnam could manage to bring together the antiquities of India, Assyria and Egypt, especially those which are symbolic and illustrative of the ancient religions of the East, he would make the exhibit well nigh complete. It is to be hoped this will be done.

THE MUSEUM AT CHICAGO.

The directors of the Art Institute and the officers of the Commercial Club, of Chicago, have recently waited on Prof. Putnam and asked him to give a plan for a Museum which shall be established in the city. The plan which seems to be most favorably received is one which embodies many features of the National Museum, except it is to be controlled by stockholders, with a permanent director at the head. It is to embrace all departments of natural history, anthropology, as well as specimens of fine arts, such as painting, statuary, etc. This movement is timely, for the Columbian Exposition will bring together articles which would never be sent to Chicago except for this. The Centennial Exhibition at Philadelphia has furnished a lesson. The National Museum received very large concessions from the Centennial exposition. Philadelphia received no permanent benefit. A museum is needed at the West. There is nothing worthy the name in the Interior at present. Chicago is rapidly becoming a literary center. Some of the largest and best universities and colleges are located within 150 miles. The educating force there is in a museum would be felt 500 miles away. It is fortunate that Chicago business men see this and are making a movement toward establishing such a Museum. We hope that it will be carried through.



BOOK REVIEWS.

Christopher Co'umbus, and How He Received and Imparted the Spirit of Discovery. By Justin Winsor. Houghton, Mifflin & Co. 1891.

A voyage of discovery on the sea of literature, with the figure of Columbus like a continent dimly seen in the distance, would perhaps be the best description which could be given of this book in a single sentence. There seems to be so much obscurity about the early history of Columbus himself that the author has to seize upon the faintest hints, which may be compared to the carved logs upon the sea shore, to make out the picture of Columbus, as others do that of Shakespeare. The work of exploration among manuscripts, old books, maps and other sources of information has been most faithfully done. He does not, however, reach the inspiration of the subject until he arrives at the discovery of America. Then the author has plain sailing, and he strikes out with freedom which imparts interest to the narrative. The value of the first part of the book lies in what it does not tell rather than in what it does tell. It has at least this merit: that it gives the other side of the picture from that which has been drawn by such writers as Irving and Prescott. Winsor clips the wings of these imaginative writers, but he gives a better portrait, or, at least, a fairer one, than Mr. H. H. Bancroft, who has undertaken to judge the character of Columbus from a critical standpoint. Bancroft slashes, but Winsor cuts nearer to the line. We miss, to be sure, the expression in the statue which the other artists have given. Our hero worship receives a wet blanket; but as the narrative proceeds, and the facts are brought out, the magnificence of the man comes back, and we cannot help admire him, notwithstanding his flaws and imperfections. The portraits of Columbus which have been painted are reproduced in this volume and descriptions of them given by the author. Any one who looks upon these portraits will be impressed with the thought that he was a man of great force of character, but the wonder is that with so much poverty

and so many disappointments, and so much of a struggle to get a hearing, that he could have proved so great a commander. The portraits are as follows: 1. La Casa's map; 2. Jouvins', the earliest engraved likeness; 3. The Florence Columbus; 4. Yanez Columbus; 5. De Brys'; 6. The bust of Columbus at Havana. The book contains also portraits of Marco Polo; Las Cassars, a very remarkable man; of Magellan; of Cortez; of Ferdinand and Isabella; of the brother of Columbus, and several others. The maps which are reproduced are, however, the best or the most valuable engravings in the book. They are worth nothing as pictures, but are a wonderful source of information. These show the progress of discovery even when unattended by any letter press. The picture of the ships of 1486 and the cathedral of Cordova and Seville give additional interest. There are some points to interest ethnologists, as, for instance, the description of the earliest aborigines of San Domingo and the Bahama Islands, as compared with the Caribs, a later race. These were cannibals. The earlier race, the author thinks, may have been the remnant of the European river drift; they had been bourne across the ocean by the currents to the Canaries, and from the Canaries to the Bahamas. He quotes from Prof. W. K. Brooks, who has made a study of the bones found in the caves of the Bahamas, and who reports that these indicate a muscular, heavy people, with protuberant jaws, sloping eyes, round skulls, flattened on the forehead—"a result singularly confirming Columbus' saying that he had seen people with broader heads than he had ever seen."

Forty Years Among the Zulus. By Joseph Tyler. Congregational Sunday School and Publishing Society.

This is a charming book. It is as interesting as a book of travels, but is more instructive than the majority of such books. Mr. Tyler and his wife were very successful missionaries in South Africa; some of the most remarkable results followed their labors; Christian civilization was introduced into Africa by their means. Theirs were lives well spent. The change was not only in the externals of the people, but one can see from the portraits of the black men who were teachers and preachers that a still greater change has come over the character of the people. The portrait of Mr. Tyler is given as a frontispiece and is interesting; but that of Mrs. Tyler is very winning.

In the line of archæology and ethnology, missionaries are acknowledged to be useful. Mr. Tyler is not an exception, as the following notes taken at random will show: The Zulus believe in a bird of heaven which, they say, comes down during a thunder storm; the doctors watch for the appearance of this bird and use the fat to anoint the lightning sticks on the huts. The Zulus are snake worshipers; when the body dies the *umoya* is supposed to take up its abode in a snake. If an otter should be killed in the day time it must not be removed until a certain amount of manoeuvring for fear of the deluge, the otter being a water animal. Totemism of the taboo kind is common; prayer is offered before and after an animal is killed. Ancestral spirits are the objects of Zulu worship; spirit doctors are common, they swear by the spirit of the Zulu kings that none of them should abandon the worship of their forefathers. A young man is sometimes seen with a pair of deer-horns attached to his forehead, while about his neck are strung leopard's teeth, pieces of crocodile skin, claws of birds and small bags of medicine. The interior of an habitation is suggestive; the fire-place is a saucer-like excavation in the center of the floor, with a rim around it six inches high, to keep fire brands and ashes from scattering; pits about six feet deep are dug as large as a hogshead, shaped more like a jar, with a covering of flat stones, in which Indian corn and cereals are stored. A kraal is simply a collection of small huts arranged about a circular fence which encloses the cattle fold; the huts are made of long wattles or poles, the ends of which are fastened in the ground, the tops lashed together, a strong basket-like roof is supported by horizontal poles resting upon two or more upright posts; in the hut the smoke has no chimney. Their pillows are small wooden stools about five inches high, on which they rest their neck. The Zulus are too proud of their elaborate head-dress to bring it in contact with the ground.

A New Work on the Mound Builders.

AVON, ILLINOIS, September 19, 1891.

DEAR SIR:

Allow me to address you in reference to the subject of the Mound-builders. You are aware perhaps, that I have been engaged for several years in writing a book on this subject. That book is now nearly finished. I desire, however, to get all the names of persons who have explored among the Mounds, with the idea of giving credit to them for such discoveries as they have made. Will you then, please do me the favor to enclose to my address, lists of the names of such persons as you may know? The names of persons who have collections of Mound-builders' relics will be especially acceptable.

My plan is to give a record of the entire field, with the works and relics which are distinctive of each district and subdistrict, plainly marked and described. I therefore would be glad to get descriptions of the works and relics which are found in your locality. I would say that the *American Antiquarian* has been the medium of correspondence for the collectors and students. If you will write me a letter describing the objects of interest which have come under your observation, I will be glad to put it in shape for publication in the journal.

The opportunity now offered by the book and by the magazine for a permanent record, I think you will appreciate. This appeal to you is made with the hope that you will furnish me with information about your locality soon, so that I can give it to the public in one way or another. It has taken me twelve years to write the book. My effort has been to make it complete. I want the facts for the first edition. Please favor me with a letter.

Please also let me know whether you will want the book. If you do, I can furnish it to you at a discount, which will make it an object for you to subscribe for it now.

Respectfully yours,

STEPHEN D. PEET.

THE MOUND-BUILDERS

THEIR WORKS AND RELICS.

—BY—

REV. STEPHEN D. PEET, Ph. D.,

EDITOR OF AMERICAN ANTIQUARIAN,

Author of Animal Effigies and Emblematic Mounds. 360 pages. Illustrated.

TABLE OF CONTENTS.

PART I.—Tribes and Races among the Mound-builders.

- CHAPTER I.—Mysterious Races.
- CHAPTER II.—Mound-builders of Europe and America.
- CHAPTER III.—The Habitat of the Mound-builders.
- CHAPTER IV.—The Effigy Mound-builders—First District.
- CHAPTER V.—Burial Mounds—Northern District.
- CHAPTER VI.—Sacred Enclosures—Ohio District.
- CHAPTER VII.—Stone Grave People—Mountain District.
- CHAPTER VIII.—Migrations of the Mound-builders—Middle District.

PART II.—Structures of the Mound-builders.

- CHAPTER IX.—The Villages of the Mound-builders.
- CHAPTER X.—The Pyramid Mounds of the Gulf States.
- CHAPTER XI.—Mound-builders' Defenses.
- CHAPTER XII.—Mound-builders' Houses.
- CHAPTER XIII.—Mythologic and Religious Structures.

PART III.—The Relics of the Mound-builders.

- CHAPTER XIV.—Relics of Mound-builders and Indians.
- CHAPTER XV.—Symbolic Relics of the Mound-builders.
- CHAPTER XVI.—Relics from Altar Mounds and Ash Pits.
- CHAPTER XVII.—Relics Showing Civilization of the Mound-builders.

This book treats of the Mound-builders: their occupation, modes of life, religious systems, tribal divisions and early migrations. The effort is to divest them of all inventions and degradations of the modern Indians, and to show their actual condition during pre-historic times.

The work contains descriptions of the earth-works of all classes. The classification of the mounds is made according to their uses, whether as village residences, as defenses, as religious structures, as domestic or private and official houses, or as sacrificial or burial places.

The relics of the Mound-builders are treated at considerable length. They are regarded as works of primitive art, but the differences between them as art specimens are clearly pointed out. The work contains many illustrations and descriptions of Mound-builders' relics, especially pipes and pottery.

The value of the book is that it contains a comprehensive view of the whole field, and gives information about the mounds and relics of all States and districts. The design is to present a picture of the people as they were in pre-historic times, and to bring out the real life of the Mound-builders as it formerly existed. It is one of a series which is devoted to pre-historic America, and perhaps would be regarded as the most interesting volume.

This book will appear early in 1892. The Author solicits subscriptions for it. Orders can be sent to the Publishing House, 175 Wabash Ave., Chicago, or to the Author at Avon, Ill.

PRICE, \$3.50.

1. The first part of the document is a list of names and addresses.





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